THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LIII. SATURDAY, SEPTEMBER 8, 1888. NO. 10.

ORIGINAL LECTURES.

ON THE DIAGNOSTIC VALUE OF FREQUENT MICTURITION.

A Clinical Lecture.

BY F. R. STURGIS, M.D.,

PROFESSOR OF VENEREAL AND GENITO-URINARY DISEASES IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; SURGEON TO THE CHARITY HOSPITAL, B. I. (VENEREAL DISEASES).

GENTLEMEN: One of the most important symptoms in the diagnosis of many genito-urinary affections is the frequency of micturition, which, it must be clearly borne in mind, is a symptom only and not a disease in itself. What I particularly wish to direct your attention to in this lecture is the importance of this symptom as a diagnostic sign. Speaking broadly, it may be due to diseases of the urethra and its appendages, to diseases of the bladder and of the kidneys; but first let us consider the bearing which it has upon diseases of the urethra.

In the first place, as regards gonorrhœa. During the early stage of this disease—that is to say, within the first few days of its duration—a not infrequent symptom, besides the slight discharge which ensues, is a desire to pass water frequently, a symptom which the surgeon may, perhaps, ascribe to some affection of the bladder, if his attention has not been called to the fact that this may be simply a reflex from irritation elsewhere, and not due to any disease of the bladder itself.

If frequency of micturition be due to disease of the bladder, it will probably come from some acute inflammation, and as such would be attended or accompanied by pus in the urine. In order to test this point the patient is made to pass his water and the sediment which forms is examined for pus. But it does not always follow that, because pus corpuscles are found in the urine, that necessarily the pus comes from the bladder; hence, if the water be passed all at once in one receptacle, it will be impossible to decide whether the pus comes from the urethra, or whether it comes from the bladder, or from both. This point can, however, be very easily determined in the following manner: Make the patient pass his urine in three separate glasses, one to represent the first third that is passed, the next the second third, and the rest the remaining third. If the pus come from the anterior portion of the urethra, it will be found in the first quantity that has been passed; if in the deeper part of the canal, sometimes in the first, but, for the most part, in the second; and if from the bladder, only in the last; and the reason for this is obvious. If the bladder be affected, the pus, being heavier than the urine, settles down to the lower and most dependent portion of the bladder, and the fluid which is first passed would be clear if the pus comes from the bladder; if, however, the first portion of urine passed contains pus, it comes from the anterior portion of the urethra, as that is the portion which is flushed by the first passage of urine. During the middle third of urination the deeper muscles of the urethra come more into play, and what pus there is is then dislodged from the urethra, by the water which is passed. In the latter third of micturition the deeper muscles and the sphincter muscles of the bladder press out the pus in the last portion of the urine which is passed, so that in that part any matter which is contained in the bladder as a result of inflammation would be seen.

Another source of frequent micturition is due to inflammation of the deeper part of the urethra, the membranous and prostatic portions, and, in cases of clap, as the disease extends the inflammation of the mucous membrane lining the deep and prostatic urethra produces a flow of pus similar to what takes place in the anterior portion during the earlier stage of the clap, and this, in rotation also gives rise to a frequent desire to void the urine, which usually comes in small amounts at a time. It is also accompanied by an inability to retain the water the moment the desire to micturate is felt. As the disease progresses and involves the neck of the bladder, these symptoms become still more aggravated, so that the desire to pass water in acute inflammation becomes almost incessant, and the ability to retain it becomes also less.

But, in addition to the acute catarrhal inflammation of these portions of the genito-urinary tract, there are other causes which play a part in producing this symptom, and one of the most frequent of these is the existence of a stricture, particularly of the variety known as "irritable stricture," seated anywhere in the canal. An irritable stricture seated near the meatus will oftentimes produce reflex irritation to such an extent as to lead to repeated attempts to evacuate the bladder. The next point is when the stricture is seated three and a half inches in the canal not far from the region of the bulb where the mucous membrane is very apt to be irritated, more so, perhaps even, than when the stricture is seated further back. In my experience strictures seated in the deeper part of the canal are not frequently attended by an irritable condition, and very seldom give rise to much trouble in frequency of micturition. Then, as we progress further back, the prostatic portion of the urethra and the neck of the bladder are very seldom the seat of any trouble, apart from acute inflammatory affections, which would induce this condition of affairs. But the prostate itself may be the cause of this symptom from hypertrophic enlargement or the formation of an abscess. In young adults hypertrophy of the prostate as an idiopathic affection is extremely rare, and if this organ be attacked by acute inflammation, ending in suppuration, the first symptom would be an inability to pass water, a retention, so to speak, rather than a desire to pass frequently; but after the bladder has become full the "besoin

d'uriner" becomes so urgent that the water is passed frequently and in small quantity. In this case, however, it is not due to inability, on the part of the bladder, to retain the water, but rather as the result of an over-full bladder; in other words, the frequency of micturition, under these circumstances, is due to an overflow, and would, of course, necessitate the use of a catheter to relieve the distended bladder.

Idiopathic hypertrophy of the prostate seldom comes on until after middle life—that is to say, between fifty and sixty years of age—and the accompanying frequency of micturition is probably due to a reflex irritation and to pressure upon the neck of the bladder by the enlarged prostate. The patient is then obliged to pass water more frequently than he has been in the habit of doing, not only during the daytime, but also at night; and this desire is accompanied by no pain or uneasy sensations, such as we find to be the case when the cause of this symptom is due to an acute inflammation, either of this portion of the genito-urinary apparatus or of the urethra.

As I have said, gonorrhœal cystitis is one of the causes of frequent micturition, but, besides that cause, cystitis due to other causes, such as cold, stone in the bladder, ulcerations of the mucous membrane and polypus of the neck of the bladder, will also produce the same train of symptoms, viz., an uneasy sensation about the neck of the bladder, a desire to pass water frequently, unattended by pain or tenesmus.

When the cystitis is due to the presence of stone, if the stone lie free in the bladder there will oftentimes be a strong desire to pass water and yet an inability to pass more than a few drops, perhaps, at a time. Sometimes this condition of affairs is varied by the stream coming in full size and in tolerable amount after the patient has changed his position, or has strained a ltttle, caused, probably, by the stone rolling away from the vesical end of the urethra and thus allowing an exit to the urine, and the few drops which are passed at first are due to the occlusion of the mouth of the bladder by the stone rolling in front. Of course, other symptoms of stone in the bladder, such as pain referred to the head of the penis, pain shooting down the inside of the thighs, would at once direct your attention to the possible existence of stone, and cause you to make an examination to settle that point.

If the stone be seated in the cul-de-sac of the bladder, or if it be encysted, the only symptom will be a sensation of uneasiness and weight in the bladder and a desire to pass the water more frequently than usual, but without any of the other symptoms of a stone, viz., occlusion or stoppage of the stream of water.

A tumor of the bladder will oftentimes cause the same condition of affairs, and I have seen one case in which a varicose condition of the veins about the neck of the bladder produced, in addition to the hæmaturia, a frequent desire to pass water, which was nearly always accompanied, toward the end of the act of micturition, by an amount of blood, varying from a few drops to a drachm or two at a time. This case was relieved by a perineal section and cystotomy, which relieved the varicose condition, and with it the urgent desire to pass water.

Ulcerations of the mucous membrane of the bladder will also sometimes induce the same condition of affairs, but in a less degree than when the disease is due to the causes to which I have already called your attention.

The presence of pus in the bladder, no matter what the cause may be, seems to produce a desire to pass water, and we find oftentimes that this symptom accompanies the existence of pyelitis. The pus coming down from the kidney through the ureters is deposited in the bladder, and there for some reason or other seems to act as an irritant, not sufficient, however, to excite an acute inflammation. but simply the desire to micturate more frequently than normal. The other symptoms of pyelitis, viz., pain about the renal region, the enlargement, etc., if the disease has sufficiently advanced to that stage, will put you on the track of the true cause of these symptoms.

Another point, also, to which I wish to call your attention, and which I have already incidentally spoken of, is the fact that a repeated micturition or a continued dribbling away from the urethra is sometimes due, not to an inability on the part of the bladder to retain its contents, but rather to an over-distention of this organ, and this is sometimes the case in atony of the bladder, due either to over-distention from the habit which some people have of retaining their water for a great length of time, or to paralysis of this organ, as the result of a paraplegia. In those cases the natural irritability of the bladder is destroyed and the urine accumulates until the viscus can hold no more. It then gradually leaks away, and the patient at first only notices that he has to pass his water more frequently than usual, and that what is passed comes away only in small quantities. The reason of this, from what I have already said, is perfectly plain. What comes away is the surplusage which the bladder cannot contain. As soon as that surplus is reduced to the standard which the bladder can hold no more comes away, because the contractile force of the bladder is lost and no more passes until the over-distention point is reached. The desire to urinate then comes on, and a little more is passed again, and so it goes on until later on the bladder, being unable to contract any longer upon its contents, the urine dribbles away continually. This symptom would, of course, at once attract your attention, but the earlier one of frequent micturition might, perhaps, not, and you would refer it to some other than its true cause.

Diabetes is also another cause for this condition, and is probably due to the large amount of urine which is secreting, and which finds its way into the bladder, filling that organ faster than it does in the normal condition, and so necessitating a more frequent desire for urination.

Besides pyelitis, other affections of the kidneys may also be the cause of frequent urination, and foremost among these stands chronic interstitial nephritis. This disease, characterized usually by a pale, slightly turbid urine, frequently gives rise to irritation of the bladder without inducing any disease in that viscus. The urine, when examined, is found a little below the normal standard as regards specific gravity, and usually contains albumen and casts. Both of these, however, are frequently absent. There is nothing peculiar in the appearance of the urine, and the only thing which attracts the patient's attention is the fact that he has to get up several times during the night to pass his water. An examination of the urethra and the bladder gives negative results and the urine, when examined, may also show but little

to point to the true cause of the disease. If albumen and casts are present, of course a diagnosis may speedily be arrived at; but in many instances both of these symptoms are absent, and then the main points in the question of diagnosis are the continued low specific gravity and the diminished daily amount of the urine which is passed. This variety of renal disease is oftentimes one of the most difficult to detect, owing to the fact that the symptoms are so entirely of a negative character.

Frequent urination may also be induced by what is known as neuralgia of the vesical neck, or of the bladder itself, as well as neuralgia of the urethra. This peculiar disease is attended by all the symptoms either of acute irritation of the neck of the bladder, or else of stone in the bladder, so much so that patients have sometimes been repeatedly sounded for stone, under the impression that the symptoms were due to that cause. It is attended not only by a frequent desire to pass water, but also by most distressing pain, usually immediately after the act of micturition, and which extends, in varying degrees of intensity, from the meatus to the neck of the bladder. At times the patient may be entirely free from pain and discomfort and pass his water apparently with no irritation and with no excessive frequency; at other times all these symptoms will be aggravated, and the patient will be called upon to empty his bladder, especially during the day, several times in the course of an hour, the amount passed at times being small in quantity and attended with extreme irritation. During the night, when the patient is asleep, the frequency is very much diminished, but toward morning it commences again, calling the patient up from his bed several times before he finally rises to dress. The urine when tested is perfectly clear and normal in all respects. Examination of the urethra fails to detect any particularly sensitive point or the presence of stricture. The bladder when examined fails to show any evidence of disease, and yet all these symptoms will continue, often in a most distressing manner, without any apparent cause.

This neuralgic condition is frequently associated with neuralgia of other parts of the body, but it sometimes seems to be confined alone to the genito-urinary apparatus. In the male subject the testicles will oftentimes be affected, but usually in an inverse ratio to the irritation of the bladder. Thus, if the symptoms of the bladder seem to be relieved, the neuralgia of the testes comes on with greater intensity, and *vice-versa*.

The question of the treatment, of course, varies with the cause which induces this symptom,—for remember that this condition of frequency of micturition is only a symptom and nothing else,—and it oftentimes is an important one, because it may be due to serious disease as well as to disorders of light character. If it be due to gonorrhœa, especially during the earlier stages, the use of injections, and notably the astringent injections, will relieve it perhaps as quickly as anything else. And although the frequency may be great, it is better to commence at once with the use of injections, especially with the sulphate or acetate of zinc, than it is to treat the case internally by the use of balsams or oils. In several instances I have been able, by applying a solution of 10 or 20 grains of the nitrate of silver solution directly through the endoscope, to relieve this symptom when it had been very marked indeed. And let me here repeat what I told you when speaking in a previous lecture, of the use of the endoscope in the treatment of urethral affections, that the urethra will tolerate a strong solution of nitrate of silver if it be confined directly to the point diseased, where an injection of half or quarter of the strength would produce a great deal of irritation in the canal. This is only repeating in the anterior portion of the canal what we sometimes find to be of benefit in the deeper portion of the urethra for the treatment of cystitis, of which I shall speak in a few moments. When the disease is in the deeper part of the canal—that is to say, near the prostate or neck of the bladder—injections will oftentimes relieve the symptoms, and it is here also that the topical applications through the endoscope are peculiarly of service. Many observers have been able to control an acute attack of cystitis, and even an epididymitis by the injection of a few drops of a strong solution of nitrate of silver to the deeper part of the canal by means of a deep urethral syringe. I myself prefer very much making the application through an endoscope, because the application can be confined to the diseased part absolutely, and there is no danger of the solution flowing over sound tissue, and in these cases I oftentimes make an application of quite a strong solution; seldom under forty grains to the ounce, and I have in some cases used a saturated solution.

If the symptom be dependent upon stricture of the urethra, the removal of the stricture by any one of the methods which are in vogue, and which I shall discuss in a future lecture, will relieve the symptom by removing the cause; but it sometimes happens that even after a stricture is thoroughly divided and large sounds are passed into the bladder, this symptom will continue. I recall one case particularly, which happened to me lately, in which I operated on a patient for irritable stricture of the urethra 5½ inches deep. The operation was by divulsion, and the stricture was split to a 32 F., the fullest size which his urethra was capable of admitting. Previous to the operation there had been a slight tendency to frequency of micturition, which seemed to increase after the sounds had begun to be passed regularly. After it was evident that the sounds would not relieve this condition, I examined him with an endoscope and found a congested and irritable point just behind his stricture. I made three applications of a 40 grain solution of nitrate of silver, with the result of relieving him entirely of his desire to pass water frequently, and the sounds were used afterward in the further treatment of the case, but at no time did this symptom of frequency of micturition recur.

If the disease be due to prostatic enlargement, but very little can be done. Iodide of potassium has been spoken of favorably in relieving this symptom in such cases, and it is worth perhaps a trial at your hands. Judging from my own experience, you will not have such brilliant results as you might hope for from reading the reported cases.

Where the disease is due to gonorrhœal inflammation of the bladder and prostate the use of the balsams, the oils of sandalwood and cubebs, small doses of turpentine, and suppositories of belladonna and opium should be tried, and in the course of a short time, as the inflammation subsides, this symptom will pass off.

When due to a varicose condition of the bladder or tumors within this viscus, surgical interference is the only thing to be resorted to, either by perineal section or by the suprapubic operation.

Frequent washings out of the bladder have been recommended in cases of cystitis, but I am inclined to believe that more harm than good has been done by such methods of procedure. If you decide to wash out the bladder, remember not to do it too frequently and, also, never to inject a large amount of water at a time. Four or six ounces of water thrown in is all the bladder will probably contain with any degree of safety, and the operation should always be done very slowly and the water allowed to run out without filling the bladder to its fullest extent. I need hardly say that in these cases the water should be warm and never cold.

When you have to deal with pyelitis as the cause of the disease, surgical instruments will not be required unless the kidney has become the seat of abscesses and so thoroughly disorganized as to require removal. Under these circumstances nephrectomy is the only thing to be done.

The treatment of chronic interstitial nephritis and diabetes comes more within the domain of the professor of clinical medicine than mine, and so I shall say nothing here in regard to it.

ORIGINAL ARTICLES.

SEPSIS OF THE NEWBORN AND DIPHTHERIA OF THE NEWBORN.[1]

BY J. LEWIS SMITH, M.D.,
CLINICAL PROFESSOR OF DISEASES OF CHILDREN, BELLEVUE HOSPITAL MEDICAL COLLEGE, NEW YORK.

SEPSIS OF THE NEWBORN.

THE manner in which sepsis or septicæmia occurs is sometimes obscure. Leube, in 1878, relates two cases (*Deutsch. Archiv für klin. Med.*) in which the examination failed to disclose the source or mode of infection. He designates such cases cryptogenetic, expressive of the unknown or occult origin. Wunderlich and Schützenberger allude to similar cases. But in sepsis of the newborn it is the common and apparently correct belief that the poison of sepsis usually enters the system at the umbilicus. The cases which I am about to relate are in harmony with this theory.

It is not my intention to discuss the nature of the septic poison, but there can be little doubt, from the examinations which were made, that in the following cases it was microbic and not of a chemical nature.

Cases of sepsis of the newborn may be conveniently classified as follows:

FIRST GROUP. *Cases of umbilical phlegmon which is a local sepsis, the poison entering the system from an umbilical sore, and being conveyed by the lymphatics.* —The New York Infant Asylum at Sixty-first Street and Tenth Avenue has, during the twenty-three years of its existence, been remarkably free from contagious and infectious diseases, but since September 1, 1887, seven cases, in which either local or systemic sepsis was diagnosticated, occurred in newborn infants in the Maternity Ward of this institution.

It is proper to state that at the same time diphtheria was epidemic in the asylum, and that five of the newborn infants had diphtheria, the pseudo-membrane appearing in its usual situation on the pharyngeal, nasal and laryngo-tracheal surfaces, and, in one or two of the patients, also lining the œsophagus. Moreover, two of the five infants with diphtheria had umbilical phlegmon of a few days' duration when the diphtheritic exudate appeared upon the faucial surface.

The question is, therefore, a proper one, whether in these two cases the phlegmons were a local manifestation of diphtheria, or whether the umbilical phlegmon and diphtheria were distinct diseases having a different microbic origin.

CASE I.—Victor M. was born, after normal labor, on January 5, 1888, and the umbilicus was dressed with borated cotton. The mother did well and was able to leave her bed on the seventh or eighth day. Nothing unusual was noticed in the infant until January 11th, when a little suppuration was observed in the umbilical fossa, at or around the point of attachment of the cord, and on examination the walls of the umbilicus were found thickened and indurated. The appearance indicated the commencement of an umbilical phlegmon, and the skin covering it was red as in erysipelas. The phlegmon extended in area until January 14th, when the thickening and infiltration reached to the distance of about one and a half inches in every direction from the umbilicus, so that the form of the phlegmon was circular or wheel-shape. Its thickness or depth near the umbilicus was perhaps three-fourths of an inch, but near its margin the thickening and infiltration were less. The pulse on the 13th varied from 132 to 144, and the rectal temperature was 101.8°.

The case was carefully watched by Drs. Davis and Cook, the resident physicians, whose records I employ, and the faucial surface was daily inspected by them. On January 14th, the baby being nine days old, they observed for the first time the grayish-white exudate of diphtheria on each side of the fauces, and a day or two later also upon the Schneiderian surface, so closing the nostrils that respiration through them was impossible. The baby, on attempting to draw the nipple, became cyanotic, and was obliged to relinquish its hold. During the 14th and 15th the temperature fell to 98.5° and 98°, the pulse was very feeble and too rapid to be counted accurately, and the respiration varied from 24 to 48. Death occurred on the 15th, at the age of ten days.

The *autopsy* revealed a diphtheritic pseudo-membrane upon the faucial surface on both sides, extending downward, so as to cover both surfaces of the epiglottis, the entrance of the larynx and the laryngeal surface, completely concealing the vocal cords and the portion of the larynx above them.

[1] Read before the Pædiatric Section of the New York Academy of Medicine.

The trachea and bronchial tubes were free from the exudate. The lungs, in nearly every part, were thickly mottled with points of extravasated blood, and less abundant extravasations were observed in and upon other organs. The umbilical phlegmon removed entire, and in a frozen state from the intensity of the cold in the dead-house, was sent to the laboratory of the College of Physicians and Surgeons, where it was carefully examined by Dr. Prudden. He reports that the umbilical vessels were in their normal state, showing no evidence of disease, except the mouth of the umbilical vein, or that portion of the vein which was next to and in immediate relation with the umbilicus. Plugging the mouth of the vein and extending a few lines along the lumen of this vessel was a thrombus or blood-clot, from which Dr. Prudden was able to obtain cultures, and in the culture bed two forms of cocci were developed, to wit, the staphylococcus pyogenes aureus occurring in the usual form in groups, and the streptococcus pyogenes producing beautiful and delicate chains. The portion of the vein enclosing the thrombus or clot had preserved its integrity, so that the clot was entirely distinct from the phlegmon which covered the vein. It did not seem possible that microbes, ptomaines or elements of the blood could pass from one to the other, on account of the firm coats of the vein which were interposed between them.

Portions of the phlegmon placed in culture media developed the same forms of cocci as those produced from the clot that plugged the mouth of the vein. We infer that the cocci were the septic agents since no other cause of the sepsis was discovered, and that they were received from the umbilical sore. Some entered the thrombus and others, taken up by lymphatics, entered the tissues which surrounded the umbilicus, and gave rise to the phlegmonous inflammation.

It is easy to understand how microörganisms may enter the umbilical vein after the fall of the cord, when there may not be complete closure of the mouth of the vessel. But it can scarcely be doubted that in the above case as well as in cases which I am about to relate, the septic infection took place through the raw and denuded surface of the umbilical fossa, the lymphatics being the carriers of the poison. We know how frequently granulations sprout out from the umbilicus of the newborn, and wherever there is a surface denuded of cuticle from which these may arise, there is a surface from which microbes or toxic agents may be absorbed. The umbilicus, too, is a receptacle in which microbes conveyed in the floating dust of an apartment, in foul water used for bathing, in dirty sponges, or abdominal binders or umbilical dressings, would be likely to lodge. M. Bouchut, in his remarks on the fall of the umbilical cord, says, "cords voluminous, soft and plump, dry slowly and often suppurate at their base before they fall (Les cordons, volumineux, mous et gras, se dessèchent lentement et suppurent souvent à leur base avant de tomber)." (*Traité Pratique des Maladies des Nouveau-Nes*, etc.) With conditions so favorable for septic infection it is perhaps surprising that it does not more frequently occur, especially in hospital or asylum wards.

The patient whose case I have related evidently had systemic infection in addition to the local septic infection in the phlegmon. The numerous points of extravasated blood in the lungs and elsewhere showed this. But doubt must arise, whether this general infection occurred from the phlegmon in which there was intense hyperæmia and an active circulation as shown by the inflammatory redness of the cuticle, or whether it resulted from and was connected with the diphtheria. But we will relate cases of systemic infection in which there was no diphtheria and in which the septic agent or agents entered the system through the umbilicus.

The volume of the *Transactions of the London Pathological Society for 1879* contains an able and elaborate report of the committee appointed by that Society to investigate pyæmia, septicæmia and purulent infection. Their report is based on the examination of the records of 156 cases occurring in the London hospitals, and it throws light on the cause of hemorrhagic extravasations occurring in cases of septic infection of the system. They remark: "On microscopical examination of different organs, micrococci were found in all, or at least in some of the viscera. They were nearly all in the bloodvessels, completely plugging capillaries; in masses which sometimes produced varicosities, or even rupture of the vessels and extended into the contiguous tissues" (*Brit. Med. Journ.*, January 24, 1880).

CASE II.—Hilda M., born February 28, 1888, was plump and robust, weighing eight pounds and seven ounces. The mother appeared to be well until March 3d, when she had fever, and symptoms which were apparently due to pelvic cellulitis, probably of septic origin. The infant was fretful on March 3d and 4th, and on March 5th a small ulcer was observed in the umbilical fossa. The skin surrounding the umbilicus, over an area the size of a silver dollar, had a deep red color, and the tissues underneath, constituting the abdominal walls, were infiltrated and thickened. The phlegmon gradually extended in every direction from the umbilicus, so that, on March 6th, it nearly reached the ensiform cartilage above and the pelvis below. The fauces had been inspected daily, and at 5 P.M., March 6th, the grayish-white exudate of diphtheria was observed for the first time, covering the tonsillar portion of the fauces on each side. On March 7th the exudate had increased, the cry was hoarse, the fingers livid at times, and fluid regurgitated through the nostrils. The phlegmon occupied nearly the entire abdominal walls anteriorly. March 8th, surface cyanotic; respiration labored and at times accompanied by the expiratory moan; a diphtheritic pseudo-membrane in the right nostril. Death occurred at 6.30 A.M., March 9th, at the age of ten days, on the fourth or

fifth day of the phlegmon and on the third day of the diphtheritic exudate upon the fauces. The rectal temperature varied from 99.8° to 102.8°, until the last day, when it was subnormal, being 96.6°; the pulse varied from 90 to 112, and the respiration from 40 to 60. Both the pulse and respiration gradually increased in frequency until death, this increase being, probably, largely due to the double pneumonia. The tincture of the chloride of iron in glycerin, brandy and breast-milk were given internally; iodoform and carbolized oil applied to the umbilicus, and antiseptic sprays employed to the fauces and nostrils.

Prof. T. M Prudden kindly consented to conduct the autopsy, which was made with sterilized instruments and under conditions designed to prevent access to the body of adventitious germs. The following are his notes:

Autopsy.—The umbilical orifice was covered by a dry, brownish scab, beneath which was a small, rough-edged cavity, containing a yellowish, semi-solid mass. The abdominal wall, for about three centimetres around the umbilicus on all sides, was hard, thickened and dusky-red. A section through the abdominal wall in the line of the umbilicus showed that the wall was thickened to about 1.5 centimetres immediately around the latter.

Both the umbilical vein and the hypogastric arteries, for about 1.3 centimetres from their attachment to the abdominal wall, were much thickened, red and hard, and their inner layers were converted into a soft, yellowish, friable material. Beyond this point all of these vessels were filled with blood-clots and appeared normal. There was no peritonitis, and all of the abdominal organs were normal.

The heart was normal. The pharynx, larynx and trachea showed soft, reddish, friable patches of diphtheritic membrane, partially covering their free surfaces. This membrane did not extend into the bronchi. The lungs showed broncho-pneumonia in both lower lobes, with considerable consolidation.

The microscopical examination of the parts about the umbilicus showed that at the point of attachment of the cord was a small pus-cavity whose walls were infiltrated with small spheroidal cells, with a few rod-like bacteria, and with large numbers of spheroidal bacteria. Similar spheroidal bacteria were found in the purulent detritus contained in the cavity, as well as within the lumina and infiltrating the walls of the adjacent ends of the umbilical vein and the hypogastric arteries.

The tissues of the abdominal walls about the umbilicus were infiltrated with serum, fibrin and a moderate amount of pus. Spheroidal bacteria were rather scantily scattered in the lymph spaces of the swollen tissues, being most abundant near the umbilical vessels.

Biological examination of the contents of the inflamed portion of the umbilical vessel showed the presence of several species of bacteria. The species which was by far the most abundant was readily identified as the *staphylococcus pyogenes aureus.*

The anatomical diagnosis, then, is diphtheria of the pharynx, larynx and trachea, with double broncho-pneumonia, localized septic inflammation of the umbilical vein and hypogastric arteries, and of the abdominal wall surrounding them.

As the evidence of local infection is so great, it seemed desirable to gain some data as to the purity of the air in the wards. Accordingly, such analyses as time permitted were made by Dr. T. M. Cheeseman, Jr., who presented the following: "A biological examination of the air in the lying-in ward of the New York Infant Asylum, made on March 7, 1888, showed a very large number of living bacteria, of many different kinds. Among them the staphylococcus pyogenes aureus was of frequent occurrence. A second examination, made immediately after the usual sulphur disinfection, showed a large number of living germs."

CASE III.—Janse J., born January 3, 1888, was wet-nursed by its mother, and apparently did well until January 16th, when the attention of the resident physician was directed to it and an umbilical phlegmon was discovered as large as a twenty-five cent piece, the skin covering it being intensely red; temperature 98.5°. The dressing, after the discovery of the phlegmon, consisted in dusting with iodoform and the application of carbolized oil (one part of carbolic acid to twenty-five of sweet oil). January 17th, phlegmon not extending and its surface less red. The redness, thickening and infiltration gradually abated, and on January 21st the patient was removed from quarantine. In this case there was no record of an umbilical sore; the fauces remained normal, so that the diagnosis of diphtheria was excluded. The mother continued well.

CASE IV.—George C. was born in the maternity ward, January 14th. On January 25th the nurse observed a small vesicle upon the border of the umbilicus, and removed the cuticle covering it. Some hours afterward the attention of the resident physician, Dr. Davis, was called to it, who found thickening and infiltration of the umbilical wall, most marked on the side which had been occupied by the vesicle. The same treatment was employed as in Case III. The records of January 26th and 27th state that the redness and infiltration are abating, and on the 29th the umbilicus had returned to the normal state.

CASE V.—John S., born October 14, 1887, the mother being a healthy primipara. The child was well developed at birth, weighing nine pounds and four ounces. The cord fell on the sixth day, and a small ulcer with indurated edges was observed in the umbilical fossa, at the point of attachment of the cord. The induration in and around the umbilicus increased slowly until the ninth day. On the ninth day the child was restless, and, on examination, the ulcer was found enlarged and surrounded by a zone of inflamed tissue half an inch in width. The inflammation, accompanied by the usual infiltration and swelling gradually extended, so that on the 15th the diameter of the inflamed area was two inches. The ulcer had also increased. On the twentieth day after birth the ulcer had attained the diameter of two inches and the depth of three-eighths of an inch, but the induration had begun to abate.

From this time improvement was progressive, and no notes were taken after the twenty-fourth day. The rectal temperature, ascertained each day from the ninth to the twenty-fourth day, varied from the normal to 102°. During the active period of the phlegmon it was usually from 100° to 101 5°, and the emaciation was progressive, the loss of weight being estimated at two pounds. The treatment consisted in dusting with iodoform and the use of a compress of absorbent cotton soaked with a solution of carbolic acid. During the second week, under the advice of the attending physician, Dr. George B. Fowler, calomel was also dusted on the sore. On the twenty-fourth day the infant was removed to the Post-Graduate School, and its subsequent history is unknown. The mother had no unfavorable symptom.

CASE VI.—Joseph D., born October 22, 1887; well-developed, weighing seven pounds thirteen ounces. The cord fell on the eighth day, leaving a small ulcer at its point of attachment with an indurated border. Two days later, the tenth day after birth, the ulcer had increased slightly being one-quarter of an inch in diameter. The surrounding tissues to the distance of one inch were thickened and indurated from inflammation. At no time was the temperature above 99.1°, and the child though restless, nursed well. The tumefaction and hardness surrounding the umbilicus remained about the same until the sixteenth day, after which they gradually abated. The ulcer had healed at the end of the fourth week. The mother on the third day after confinement had elevation of temperature which continued four days; and six weeks after the birth of the child she had diphtheria in the usual form. During the same month—October—twenty-seven obstetrical cases were under observation, but all except this patient convalesced without an unfavorable symptom.

SECOND GROUP.—*Cases in which the septic poison probably entered the system through the umbilical vein.*

CASE I.—In May, 1884, an infant died of sepsis at the New York Infant Asylum, at the age of fifteen days. It was apparently well until about the close of the first week, when the umbilicus was observed to be raw, and a slight oozing of a puriform liquid occurred from it. During the second week the abdomen was hard and tender, and peritonitis was diagnosticated. The cord fell on the seventh day. During the second week the abdomen was apparently painful; the temperature three days before death was 100.6° and two days before death 102.4°. Examination of the chest gave a negative result. The post-mortem examination was made by Dr. W. H. Welch, now Professor of Pathology in Johns Hopkins University. The abdomen contained six ounces of turbid serum with flakes of fibrin. The portion of the peritoneum covering the umbilical vein, and along the under surface of the liver, especially at the transverse fissure, was covered with fibrin, but the peritoneum generally did not exhibit any notable hyperæmic or inflammatory appearance. A number of lymphatic vessels filled with pus could be seen in the under surface of the diaphragm, showing in what way septic infection extends along the lymphatics. The lymphatics of the diaphragm open upon the pleural surface, and it is probable had the patient lived longer that septic pleuritis, perhaps on both sides, would have occurred. The umbilical vein was filled from the umbilicus to the transverse fissure of the liver with a grayish softened detritus, consisting of broken-down thrombi with a considerable proportion of pus. Softened thrombi could be traced the entire length of the umbilical vein, the walls of which were thickened and infiltrated from inflammation. No thrombi were seen in the portal vein or vena cava; the pericardium contained more than the normal amount of serum with flakes of fibrin; hemorrhagic points were observed in the posterior portions of the lungs under the endocardial surface, under the peritoneal coverings of the kidneys and mucous covering of their calices. The mother did well giving no evidence of disease of any kind.

CASE II.—This infant, born in the New York Infant Asylum, the date not being given, was well developed at birth, weighing eight pounds six ounces. When four or five days old it became feverish, the temperature rising to 104.6°. The cord separated at the usual time, and the umbilicus seemed healthy. At the age of two weeks an abscess appeared upon the scalp, another upon the back and another upon the nates, which raised the suspicion of septic poisoning. At the age of four weeks orchitis on one side occurred, which continued three weeks when it abated. When the child was two months old, a prominence appeared about half an inch above the umbilicus, which Dr. Parker, the resident physician, punctured, and bile flowed from the incision. Subsequently the incision closed, and bile flowed from the umbilicus and continued to flow until death, which occurred, in a state of much emaciation and weakness, at the age of eight months.

At the autopsy, made by Prof. Welch, remains of old abscesses were found upon the trunk and extremities, and an abscess holding four drachms of pus was found over the occipital bone. Underneath the abscess the bone was carious and the dura mater thickened. The umbilical vein was much larger than normal, its walls being infiltrated and thickened, and its lumen of about twice its usual diameter. It contained thickened bile. One of the branches of the vein, traced into the liver, opened into an abscess the size of a walnut, which contained thickened pus with bile. The abscess was in the right lobe near its posterior border. The mother remained well.

CASE III.—Lizzie C., born September 21, 1887, robust, weighing eight pounds, seemed well, taking the breast, and having normal evacuations until September 28th, when she became restless and refused the breast. Her temperature, rectal, was 101.4°, and her respiration was accelerated and accompanied by the expiratory moan. September 20th, temperature 103.6°, respiration accelerated and painful, and abdomen distended; no cough. The diagnosis of peritonitis, probably of septic

origin, was made, but the umbilicus was of usual appearance, and the desiccation and fall of the cord seemed normal. The elevation of temperature, even to 104.4°, the distention of abdomen and the hurried respiration with expiratory moan continued until death which occurred September 30th.

At the autopsy three ounces of sero-purulent liquid containing flakes of fibrin escaped from the peritoneal cavity. All the abdominal organs were covered by a fibrinous exudation, the intestines being matted together by it. The umbilical vein was pervious; it contained clots of blood and dirty-looking pus; but the umbilicus was apparently normal. A segment of the aortic valve was thickened and rigid, and attached to it was a fibrinous mass. The appearance indicated an endocarditis of slight extent. Under the microscope the walls of the umbilical vein presented their normal appearance; but its dirty-looking and disintegrating contents probably contained septic matter. The hepatic cells exhibited the peculiar cloudiness observed in parenchymatous inflammation. Otherwise the organs seemed healthy. In this case also the mother remained well.

CASE IV.—A. B., born January 22, 1868, father healthy but mother strumous though in good health during her gestation. The infant born after an easy labor, was apparently well at birth, and it had sufficient breast milk. When it was thirteen days old, I was requested to visit it, as it had not been doing well, and I found it suffering from subcutaneous abscesses. Abscesses had occurred upon both legs, in the chest walls of the right mammary region, in and around the metatarso-phalangeal articulations of one foot and over both knee-joints. The child had fever, but its respiration was good until February 8th, when she suddenly had a severe attack of dyspnœa which continued until death, ten hours subsequently. On the following day Dr. Charles A. Leale and myself made the autopsy. The body was moderately emaciated. About one ounce of pus escaped from the right knee-joint. Pus was also found in the joint of the great toe on one side, and about two ounces in an abscess under the right pectoral muscle. A thin layer of tissue constituted the internal wall of the abscess, so that had life been prolonged a few days it would probably have broken through into the pleural cavity. The right lung was completely collapsed, and the pleura lining this lung, as well as that lining the thoracic walls on the same side, was covered by a fibrinous exudation. The left lung contained the normal, or perhaps more than normal, amount of air, so that it filled the pleural cavity, but there was a small amount of fibrinous exudate upon the parietal pleura in this cavity.

The trachea and lungs attached were removed, and on practising insufflation of these organs, air escaped from three openings in the posterior part of the right lung. These openings through which air had escaped into the pleural cavity causing collapse of the entire lung, were found on examination to have been produced by small abscesses in the tissue of the lung near its posterior surface. By the rupture of these abscesses, the pus which they contained escaped into the pleural cavity producing intense general pleuritis and pneumothorax. Numerous minute abscesses were found in both lungs, but only the three alluded to had been ruptured. It seemed certain that had the patient lived longer other abscesses would have ruptured.

CASE V.—In the following case bacteria were found making their way along the umbilical vein at a distance from the umbilicus, and also in the tissues involved in the umbilical phlegmon. Those in the phlegmon were apparently derived from the umbilicus and conveyed by the lymphatics. This case, therefore, might be placed in the first group as well as the second.

Anne — was born in the New York Foundling Asylum on May 18, 1888. A few days after birth, and before the cord dropped, the umbilicus was observed to be foul from secretion or exudation in it, indicating a sore at the base of the fossa. On the seventh day an umbilical phlegmon was noticed small and confined to the umbilical walls. Three white patches were also observed on the roof of the palate near the velum, not raised and apparently not diphtheritic, resembling superficial ulcers. All the infants born in the Maternity Ward of the Foundling Asylum receive Credé's treatment, designed to prevent purulent conjunctivitis, one drop of a two per cent. solution of nitrate of silver being instilled between the eyelids of each eye. Although this child was thus treated, she had a pretty active purulent conjunctivitis of the left eye, to which our attention had now been called for the first time on the seventh day. Credé's treatment was immediately reapplied to this eye, one drop being introduced between the lids. This was followed by the corrosive sublimate treatment recommended by the late Prof. Samuel D. Gross. A solution of the sublimate, two grains to the ounce, was dropped between the lids every hour to two or three hours, four or five drops being used each time. The conjunctivitis rapidly abated, and in less than a week had nearly or quite disappeared. But the phlegmon presented a very angry appearance and the umbilical walls were greatly swollen, red and denuded of cuticle. The inflamed area had a diameter of about four inches with the umbilicus at the centre. Iodoform and carbolized oil were applied to the umbilicus and iron and stimulants given internally. The rectal temperature, taken May 26th, was 98°. Death occurred May 27th.

Autopsy, by Dr. W. P. Northrup, Curator, thirteen hours after death. Body well nourished; no rigor mortis; no external lesion, except the umbilical; the phlegmon definitely outlined and hard; its central half brown and dry; the infiltrated abdominal wall had twice its normal thickness; peritoneal surface of phlegmon congested and adherent to omentum; from this point to the transverse colon was a leash of dilated vessels, one inch in width and three or four inches in length; peritoneum injected and a few petechiæ observed in the parietal layer and the mesentery; mesentery deeply injected; liver and spleen normal; kidneys soft and flabby; points of hemorrhagic pneumonia in all the pulmonary lobes; abundant tenacious mucus covering the sur-

face of the stomach and intense injection, showing acute gastritis; cerebral pia mater finely injected, but without exudation; brain normal. Diagnosis, umbilical phlegmon, peritonitis, acute gastritis, hemorrhagic pneumonia.

Microscopical and biological examination by Prof. Prudden, at the laboratory of the College of Physicians and Surgeons. The small ragged cavity at the umbilicus contained a moderate amount of pus, cell detritus, and enormous numbers of bacteria of various forms, the spheroidal form predominating. The tissues of the abdominal wall about the umbilicus were infiltrated with fluid, fibrin and pus; scattered about in this exudation mass were small spheroidal bacteria. The hypogastric arteries and the umbilical vein were plugged with a clot for from one-half to three-quarters of an inch from their origin; their walls were greatly thickened by infiltration with inflammatory exudate. Both in the lumina of these vessels along the sides of the clot, and in the lymph spaces in their walls were enormous numbers of small spheroidal bacteria. These bacteria were present in the umbilical vein beyond the limits of the clot in the direction of the liver.

The *kidneys* showed moderate parenchymatous degeneration. The consolidated areas in the lungs are due to a nearly complete filling of the air spaces and the smaller bronchi with blood.

Cultures made from the inflamed tissue about the umbilicus and from the edges of the sloughing cavity, showed several species of bacteria common in the air and in the feces of children. In addition to these the staphylococcus pyogenes aureus was present in large numbers. A set of cultures from the inside of the umbilical vein, at a little distance from the sloughing cavity, revealed the presence of staphylococcus pyogenes aureus and streptococcus pyogenes, together with other forms. Cultures from the liver showed large numbers of staphylococcus pyogenes aureus, with considerable numbers of a stout bacillus similar to one abundant in the sloughing cavity. From the lung tissue, from the consolidated regions, enormous numbers of bacilli developed in a nearly pure culture, which corresponded in its biological characters to the bacterium lactis aërogenes of Escherich.

Remarks.—This child would thus seem to have been the victim of infection with the ordinary "suppurative bacteria" and with feces. We infer that fecal matter in some way came in contact with the umbilicus.

THIRD GROUP.—*It seems probable that in exceptional instances the septic poison in sepsis of the newborn is received in other ways or other channels than at the umbilicus.*

If sepsis of the new-born occur through absorption from an umbilical sore, may it not also from a sore located elsewhere? Decomposing and disintegrating animal tissue, wherever located, may be the source of septic infection. Moreover, medical literature contains histories of epidemics of puerperal fever, in which newborn infants perished with what was often designated erysipelas, but which the modern pathologist would unquestionably designate sepsis. The disease which I have described as umbilical phlegmon, a local sepsis, was commonly regarded by the older writers as a form of erysipelas. Dr. Condie, in his *Treatise on Diseases of Children*, described in the following lines what we would now designate sepsis:

"Erysipelas of infants very commonly occurs during the prevalence of epidemic puerperal fever. Children of mothers who become affected with the fever are often born with erysipelatous inflammation; others are attacked almost immediately after birth. Whether in these cases the disease is to be referred to a morbid matter applied to the skin in the womb, or to the same endemic or epidemic influence which gives rise to the disease of the parent it is difficult to say. According to M. Trousseau, infantile erysipelas is principally observed when puerperal fever prevails in the wards of the lying-in hospitals of Paris."

The late Dr. Folsom, of this city, furnished me the following sketch of cases which occurred in his practice and that of his partner: "About the year 1840, being then in practice in New Bedford, Mass., I was called to visit a man who complained of pain in the knee. The next morning he was easier, but the following evening his symptoms grew worse, and as I was engaged in a case of obstetrics, my partner, Dr. E. C., now dead, visited him. At my call, next morning, I unexpectedly found the patient dying. The disease was obscure, and at the autopsy next day no lesion was discovered. In making the examination, Dr. C. pricked his finger, and experiencing little inconvenience from it at first, he attended a case of confinement on the following morning. A few hours subsequently he was taken sick, and I took charge of the lady, who died in three days, having the tumid abdomen and symptoms of childbed fever. The infant of the patient was seized, when two days old, with erysipelas, appearing on the face and in spots on the trunk and limbs, and terminating fatally in one day. Dr. C.'s finger became swollen and painful, and the lymphatics of the forearm and arm became inflamed, presenting red lines, and the axillary glands suppurated. Though feverish and much prostrated, there was no appearance of erysipelas in his case. In about two weeks he resumed practice, and as at that time physicians in this country were not fully aware of the danger of communicating puerperal fever, he attended two, three, or four obstetrical cases each week, until the number reached fifteen. All the mothers died with symptoms of metro-peritonitis, and all the infants had erysipelas, commencing on the face or some part of the body, generally on the second or third day after birth, and in all terminating fatally within a week. This sad record was finally ended by the doctor's temporarily retiring from practice."

What better description could be given of a malignant form of septic infection? It will be observed that the unfortunate doctor did not have erysipelas but inflammation of the lymphatics, occurring from the poisoned finger, and the infant, who first contracted the disease and died of one day's sickness, exhibited red spots upon the trunk and limbs of an erysipelatous appearance. Did the doctor poison the mothers and infants at the same time by his digital examinations, did he poison the mothers by his infected fingers, and they in turn poison the babies through the placental circulation, or did the infected mothers communicate the poison through the breath or milk? This is an interesting subject

for inquiry in regard to which we are in the dark. Fortunately the profession are now fully aware of the danger of septic infection, so that no intelligent and prudent accoucheur would attend an obstetrical case after making a post-mortem examination, or visiting a case of puerperal fever, without change of clothing and thorough personal disinfection, and consequently cases belonging to our third group are much more rare than formerly.

It is evident that sepsis of the newborn might be prevented in a large proportion of instances by proper antiseptic dressing of the navel. Boric acid is a feeble and inefficient antiseptic, and the borated cotton which was employed in dressing the navel when the cases in the maternity ward, which have been related above, occurred, was inadequate to prevent infection. Of the powders which might be employed for this purpose salicylic acid or deodorized iodoform mixed with starch would appear to be much more efficient. Credé's method of preventing purulent conjunctivitis by instilling one drop of a two per cent. solution of nitrate of silver between the lids has been very effectual. Probably in a similar manner umbilical phlegmon might be prevented in maternity wards by bathing daily the umbilicus with a solution of the sublimate, grs. ij to the pint.

When an umbilical phlegmon has commenced, we have employed dusting with iodoform, the application to navel, every two hours, of carbolized sweet oil (1 to 30), and bathing the navel with a solution of corrosive sublimate, two grains to the pint of distilled or boiled water. In some of the cases thus treated when the phlegmons were small the patients gradually recovered, but in most of the cases the phlegmons were so large, and the microbes at such a distance from the umbilicus in the tissue of the abdominal wall that antiseptics applied upon and around the umbilicus were not curative. Newborn infants are probably too young and feeble to be satisfactorily treated by incisions in the phlegmon and the application of antiseptics to the incised surfaces, else this treatment might be more efficient than treatment without such incisions.

DIPHTHERIA OF THE NEWBORN.

Diphtheria of the newborn is rare, and the literature of it meagre. Nevertheless, a considerable number of cases under the age of one month have been reported. Oertel is mistaken when he writes "... in the first half year the infant organism seems to be not at all susceptible to the disease." Dr. Abram Jacobi writes in his *Treatise on Diphtheria*, "I have met three cases of diphtheria of the larynx and pharynx in the newly born myself. One of these became sick on the ninth day after birth and died on the thirteenth day; the other died on the sixteenth day after birth; the third was taken when seven days old and died on the ninth day." Dr. Jacobi alludes to the thesis of Siréday, of Paris, published in 1877, in which eighteen cases of diphtheria of the newborn are related. They occurred during the spring of 1877 in the hospital Lariboisière. He alludes also to several cases reported by Parrot, one of fifteen days by Bretonneau, one of seventeen days by Bednar, one of eight days by Bouchut and one of seven days by Weikert.

Diphtheria, which had been prevailing in the New York Infant Asylum since October, 1887, appeared in the maternity wards of the institution in January, 1888. The patients affected with it were all newborn infants, the mothers, although mostly young, escaping.

CASE I.—Violet M., whose case is related in the paper on sepsis. When she was six days old the phlegmon commenced; two days afterward nasal catarrh began and a day later when she was nine days old the diphtheritic exudate was observed in her left nostril and upon the faucial surface. The symptoms in full are recorded in the paper on sepsis. Death occurred at the age of ten days. At the autopsy the pseudo-membrane was found on the surface of the fauces, both surfaces of the epiglottis and the entire larynx to a point a little below the vocal cords. The vocal cords were completely concealed from view by the exudate.

CASE II.—Olivia G., born January 8th, was wet-nursed by her mother, and was apparently well until January 14th, when she became restless. On the following day, when she was seven days old, she was carefully examined and diphtheritic patches were observed upon the faucial surface. Rectal temperature 100°, respiration 36, pulse 120. She had commencing nasal catarrh, which so obstructed the breathing that she could not take the breast, and she was fed with the mother's milk from a spoon. Directions were given to syringe the nostrils at intervals of two hours with the following:

℞.—Ol. eucalypti		ʒj.
Sodii bicarbonat.	}	āā ʒij.
Sodii benzoat.		
Glycerinæ		℥j.
Aq. calcis		℥vj.—M.

Small doses of the tincture of the chloride of iron and brandy were also given at short intervals.

16th. Deglutition is so difficult that almost no nutriment is taken; breathing obstructed; features and extremities livid; temperature 101⅕° to 103⅕°; pulse 120, 112, 104; respiration 32, 34, 46; discharge from nares tinged with blood. The mustard bath was employed, but without producing reaction.

17th. The diphtheritic patches remain on the faucial surface, and the right nostril is plugged by an exudate of the same appearance. Rectal temperature at different hours through the day was 98½°, 98°, 99°, 98°; pulse 120, 118; respiration 32, 38; pulse weak, and surface cyanotic and cool. About one teaspoonful of brandy was given through the day, and the same quantity of milk; hot bottles applied.

18th. Nostrils discharging freely; temperature 103°; pulse 140; respiration 45, 60. Cry hoarse; pulse very feeble. Died at 11 P.M.

Autopsy.—January 19th. In addition to the diphtheritic exudation, already mentioned, occurring upon the faucial and nasal surfaces, a pseudo-membrane was found covering the larynx, trachea and œsophagus to within one inch of the stomach. The lungs contained numerous points of extravasated blood. No notable change was observed in the appearance of the kidneys, heart and other organs.

CASE III.—Victor K., born December 7, 1887. On January 13th, when Victor was thirty-seven days old, his mother called the attention of the resident physician to him as he seemed seriously sick. His temperature was 103.2°, and his breathing indicated nasal catarrh. On the following day, the 14th, the characteristic grayish-white exudation of diphtheria was observed on the left side of the uvula. The inability to remove it by brush or washing demonstrated its diphtheritic nature. The temperature on the 14th varied from 99° to 102.4°; the pulse from 88 to 96; and the respiration from 26 to 38, having the Cheyne-Stoke's character. The pulse was weak and the extremities and face cyanotic. On the 15th his temperature was 102°; respiration 20 with long intervals; and the frequency of the pulse could not be ascertained from the weak action of the heart. Death occurred at 5 P.M. Diagnosis bronchitis, nasal and slight pharyngeal diphtheria. The right cavities of the heart were greatly distended with blood. No pseudo-membrane was found in the larynx, trachea and bronchial tubes but only the hyperæmia of bronchitis. Lungs normal, except hypostatic congestion of posterior portion of each.

CASE IV.—Vincent B., born December 31, 1887, was apparently well until January 17th, when symptoms of a catarrhal nature attracted attention. The nostrils seemed to be unaffected, but upon the posterior surface of the pharynx was a distinct diphtheritic patch; temperature 98.5°; respiration 32 to 40; pulse 114 to 120.

18th. Discharge from nostrils; temperature 98.5°; pulse 116 to 118; respiration 36. The same nasal and throat wash was used as in the other case. On the 19th the exudate on the surface of the fauces had nearly or quite disappeared.

20th. Nasal catarrh less, and infant apparently improving. Pulse 118; respiration 28; temperature 98.5°.

21st. No discharge from nostrils and fauces apparently free from pseudo-membrane. The infant soon fully recovered.

CASE V.—Hilda M. This case is fully detailed in the article on "Sepsis." She was fretful when four days old, and at the age of six days an umbilical phlegmon was discovered. The fauces were inspected daily, and when she was seven days old the grayish-white exudate of diphtheria was observed for the first time covering both tonsils. On the following day the exudate appeared in the right nostril. Death occurred on the tenth day, and at the autopsy in addition to the phlegmon, the pharynx, larynx and trachea showed soft, reddish, friable patches of diphtheritic pseudo-membrane partially covering their surfaces. The membrane did not extend into the bronchi.

Diphtheria of the newborn is sometimes wrongly diagnosticated. Thus in the New York Foundling Asylum where diphtheria was occurring, the tonsils of an infant a few days after birth presented a grayish-white appearance, and diphtheria was diagnosticated. After its death the curator, Dr. Northrup, discovered a pultaceous state of the surface of the tonsils, but no pseudo-membrane. The disease was not diphtheria. But in regard to the cases related above there can be no doubt of the correctness of the diagnosis, unless in regard to Case III. The occurrence of five cases in so short a time, in a rather small maternity service, shows that under certain circumstances the newborn infant exhibits considerable susceptibility to diphtheria.

A very interesting and important subject for consideration arises in connection with these cases, to wit, personal and domiciliary disinfection. The occurrence of so many cases of umbilical phlegmon and diphtheria showed that the maternity ward was infected to such a degree that subsequent patients could not be safely admitted without thorough disinfection. The ward was vacated, the windows, doors and crevices closed, and forty pounds of sulphur, or two pounds to the one hundred cubic feet of air, were burnt during the day until it was consumed. After some hours the windows and doors were opened, and Drs. Prudden and Cheeseman immediately raised a dust from the floor and bedding and allowed it to settle in culture media. All other sources of infection were excluded from the media. The culture produced so large a number of microbes that they overlaid each other, but they were able to distinguish the streptococcus pyogenes which had been previously discovered in the umbilical phlegmon. Although more sulphur was employed than is recommended by the Health Board, the result appears to have been negative as regards destruction of the microbes. Some more efficient mode of domiciliary infection should be devised. I recommend to wash the floors, walls and furniture of an infected room with a strong solution of corrosive sublimate. This might be done frequently during the progress of a case of diphtheria. In order to disinfect the air of an apartment where a diphtheritic patient is under treatment, a disfectant mixture should be placed over the gas, oil or other stove in shallow pans with broad surfaces, and kept in a state of constant ebulition or simmering. I prefer for this purpose the following prescription:

℞.—Acidi carbolici . . . . . ℥j.
Ol. eucalypti . . . . . ℥ss.
Spts. terebinth. . . . . ℥vj.—M.

Add one tablespoonful to one quart of water.

One important advantage arises, I think, from this

mode of disinfecting the air, namely, that the physician and attendants are less likely to convey the disease in their clothing. It is probable that the danger of communicating diphtheria to other children, or to obstetrical cases is greatly diminished if the air be sufficiently loaded with the disinfecting vapor. No more cases have occurred in the Infant Asylum since this mode of disinfection was employed.

Although the prognosis in diphtheria of the newborn is very bad, it is not necessarily fatal as is seen by the above cases. Does it require, on account of the age, any modification of the usual mode of treatment? Very few, probably, would recommend the internal use of corrosive sublimate for patients so young, but there seems no objection to its local use by the swab or camel-hair pencil of so weak a solution as that employed by Dr. Oatman and others, two grains to the pint of water. The old remedy of the tincture of the chloride of iron, so long employed as a blood-restorer, and properly employed as a chief remedy in diphtheria, which is attended by a rapid destruction of the red corpuscles and progressive anæmia, seems to be a proper remedy for any age. It was employed in the above cases in frequent doses of one to two drops.

As the ordinary mode of domiciliary disinfection seemed to be entirely futile in the maternity wards where the above cases occurred, it seemed to me advisable to obtain the views of so eminent an authority as Dr. E. R. Squibb, of Brooklyn, and he has kindly favored me with the following note:

REMARKS BY E. R. SQUIBB, M.D.—Within the past ten years the efficacy of sulphur fumigation against infectious material has been repeatedly denied and reaffirmed upon very good authority, and observations, apparently made with accuracy and care, have been reported from time to time, to prove both sides of the question; so that all that can now be said is that burning sulphur is of doubtful efficacy, with the weight of the highest authorities in bacteriology against it. But to this it must be added that it is still largely used by very intelligent bodies in large institutions, boards of health, etc., where it would not be likely long to maintain an unearned confidence.

How often the fumes are applied dry, and how often moist, no one can tell from the current record; and how many of the failures of the dry gas would be successes in the presence of moisture there is no means of knowing.

Formerly, when sulphur was burned in closed chambers as a disinfectant, the surfaces were all wetted, and the pot of burning sulphur was set in water or in wet sand, that the heat might evaporate off a constant supply of watery vapor.

These conditions are now frequently, if not generally, neglected, and where this is the case failure on principle should be the rule.

Nearly all, if not all, chemical disinfectants are in a state of tension, ready to change on coming in contact with the matter to which they are applicable, and these changes are either by oxidation or deoxidation, and the moment of greatest power or activity is the moment of change, where they, by reacting with infectious matter, pass from a state of tension to a state of rest under new relations. The agency through which these changes almost universally become operative is the vapor of water.

When sulphur is burned in a close chamber, the dioxide is formed by condensing two molecules of oxygen from the air upon each molecule of the sulphur, and a heavy gas is the result, which tends to settle at the bottom of the chamber, and to run out through the lower cracks. Any moisture present is at once seized by this rather inactive anhydride, first forming sulphurous acid, and then, by oxidation from the air, sulphuric acid. The dry gas, or anhydride, not only seizes with avidity all watery vapor in the air, but also the water held in the surfaces of all bodies with which it comes in contact, and in the presence of this moisture only is it ready for further oxidation. Then it is by this oxidation that it deoxidizes the matters with which it is in moist contact, filling the surfaces of these matters first with sulphurous acid, then, by the change, with sulphuric acid; and it is during these changes that its power is exerted.

If there be no moisture supplied to the burning sulphur, that which was present in the air and the surfaces of the chamber is soon used up, and the dry gas remains indefinitely in a comparatively inactive, ineffective condition. The dry, passive anhydride would necessarily destroy all organisms which breathed in any degree, because breathing surfaces are moist. But in embryonic life, protected by shell, as in seed, if the shell be dry the gas would be impotent. Many bacteriologists have admitted that burning sulphur would kill bacteria, but not germs.

ACUTE INFECTIOUS PHARYNGITIS.

BY E. M. HEWISH, M.D., F.R.C.S. ENG.,
OF PHILADELPHIA.

THE above-described disease will, I believe, to the majority of us, prove to be a new one. How many may have anticipated the addition of a new medical term to our nomenclature, to express a pathological condition with which they, at one time or another, may have met, it is impossible to say, since we have not in medical literature probably more than a half dozen cases. What impressed upon me the novelty, and later on the extreme gravity of the disease, was having met with a case in practice during March last.

While in attendance upon another member of this gentleman's family he casually drew my attention to

his throat, which he said was painful on swallowing. On examining it, I found the anterior pillars, uvula, tonsils and posterior pillars of the fauces congested. The patient complained of lassitude, vague pains in the extremities, voice not clear and a considerable amount of tenacious mucus; it requiring great effort to free the throat. The patient, a man of forty-two years, weight about 180 pounds, had always been in good health. Temp. 101° F., pulse 90. Prescribed tab. hydrochlor. cocaine gr. one-fifth, every hour, to relieve dysphagia, also gargle ammon. mur. gr. v. to ʒss water, and a pill of

℞.—Quin. sulph. . . . . gr. ij.
Ammon. mur. . . . gr. ij.
Sol. ferri chlor. . . . gr. ij.
One after each meal.

Patient continued to attend to his business (merchant tailor), contrary to monitions, and it being the severe weather of last March, matters were readily precipitated.

In three days' time he took to bed, as advised, and since the articular stiffness was still complained of, I prescribed ℞. sod. salicyl. gr. xv every three hours till relievcd, but little relief was obtained.

At this time, cervical tumefaction began to show itself; no special glands could be felt enlarged; the swelling was symmetrical in all directions; dysphagia severe; tonsils much enlarged and, on palpation were quite hard, showing no tendency to formation of abscess; nor did they at any time during the disease; voice husky, and dyspnœa somewhat complained of.

5th day. Saw patient early, as he complained severely of dyspnœa and dysphagia; temp. 102°, pulse 110; had no rest during the night on account of inability to remain in bed, and consequently sat up in a chair. Tonsils and uvula same as heretofore; a small ulcer had formed on the side of the uvula. Externally the swelling had increased.

6th day. Saw patient early, as dyspnœa was very alarming to himself and family, who thought he must soon strangle if not relieved. He sat up during the night, although I had ordered him ¼ gr. morph. sulph. and had it repeated in an hour, but it did not secure rest. Little nourishment was taken on account of dysphagia. Neck very much swollen, but no fluctuation or tenderness. Lungs showed no symptoms of complication; heart-sounds normal; temp. 101° F.; pulse 112. Patient now taking tr. ferri mur., ♏ x, ammon. mur., gr. v. aquæ, ʒss, every two hours.

7th day. Dyspnœa still more marked. Dr. W. Osler saw the case with me this A. M. Same treatment continued as heretofore. We anticipated tracheotomy, should breathing not improve. Was with patient most of the day. Toward evening the eyelids grew quite puffy. Dyspnœa increasing.

8th day. Summoned early to see patient, as his family thought he could not breathe much longer, with the same difficulty. With Dr. W. Ker Shea's assistance I opened the larynx without an anæsthetic. We had promised considerable relief for the dyspnœa from the operation, but to our extreme annoyance the amount of relief which we had anticipated was not forthcoming.

Drs. W. Osler and H. R. Wharton saw the patient with me again to-day. Although the tube which we used was a large one, Dr. Wharton thought that his largest and longest canula might give more relief; it was introduced, but the dyspnœa still increased.

9th day. At 6 A. M. patient died.

Professor Senator (*Berliner klin. Wochenschrift*) discusses the pathology of this disease, and I do not think we can do better than give his own words:

The term infectious pharyngitis, which should be supplemented by the word "primary," is used to indicate a rare and "perhaps always fatal" form of pharyngitis, not hitherto described in text-books of medicine. Two examples had occurred within the last few months, and a study of similar cases had revealed three more as having occurred within the last twelve years. In all these cases, reported at a meeting of the Berlin Medical Society on January 4th and discussed on January 18th, the disease affected previously healthy persons, without any apparent cause, and ran an acute course, ending in death in a few days. It began with cervical pains and dysphagia, accompanied by fever, often moderate, then followed by hoarseness or loss of voice and dyspnœa; finally, the sensorium was affected, and death quickly ensued.

The chief anatomical sign, found post-mortem, was diffuse purulent infiltration of the deeper tissues of the pharyngeal mucous membrane, the inflammation extending to the trachea and glands of the neck and, secondarily, to other parts, especially the gastric mucous membrane. Senator is of the opinion that many cases hitherto regarded as examples of acute œdema of the larynx were in reality cases of the above disease. Notably, in a case of Cruveilhier's, the pharynx was affected for a day or two before the larynx. The very rare "typical œdematous laryngitis," mentioned by Sir Morell Mackenzie as of septic origin, is also claimed as in all probability affording an example of the disease in question.

The spleen was generally enlarged in Senator's cases, and the kidneys, as a rule, showed parenchymatous inflammation. A peculiar exanthem appeared in one case.

The blood removed both before and after death had been carefully examined, but no specific microorganisms had revealed themselves in attempted cultivations; injections of which, as also those of fresh blood, had been harmless in rabbits. The streptococcus of Friedländer (erysipelas coccus) was certainly absent.

In the discussion which followed, Dr. Guttman argued that the cases were probably erysipelatous, in spite of the fact just mentioned, and referred to Ziemssen's *Special Pathology* and Eichhorst's *Pathology*.

Virchow leaned to Guttman's opinion, but also described other pharyngeal diseases which might mislead, especially metastatic abscesses in puerperal fever, suppurative pharyngitis accompanying acute gastritis and, in one case, mediastinitis; but Senator urged, in his reply, that there was no abscess in any of his cases, but a diffuse purulent infiltration, always beginning in the pharynx. The cause was absolutely unknown to him at present, but the system was very rapidly affected in a characteristic manner, and tracheotomy was of no avail. He had no doubt that a study of the subject, as revealed in hospital records, would disclose numerous examples of this disease, overlooked under the title of "acute œdema of the larynx."

Unfortunately we could not obtain a post-mortem examination in our case.

SULPHONAL.

BY LUTHER LEE JOHNSON, M.D.,
OF GARRETSVILLE, OHIO.

THE literature regarding this new drug is extremely meagre. My experience with it is limited to its action upon one patient.

Mr. S., æt. forty-nine years, a lawyer, had suffered from insomnia for twenty years; as his legal business increased his trouble, he had to abandon his profession, and for years he has been existing on from one to three hours of sleep out of every twenty-four. He has been under skilled treatment and is as well informed regarding the physiological action of narcotics and hypnotics as the average practitioner of medicine. He had finally adopted the use of from one to two ounces of alcohol just before retiring for the night; this would produce from one to three hours of stupor (not sleep), and he had reached a point where suicide was contemplated.

I saw a notice of the new hypnotic in THE MEDICAL NEWS, and, after some trouble, I obtained one ounce of the drug. I gave my patient twenty grains dissolved in very warm water; he became drowsy in fifteen minutes and retired, getting eight hours of quiet, peaceful sleep. This was six weeks ago, and Mr. S. is now a new man. He has resumed labor, and gets, every night, from seven to eight hours of refreshing sleep, notwithstanding the fact that the dose has been reduced to fifteen grains.

The patient has been watched closely, and I cannot see any injurious effects from the use of the drug.

He took thirty grains one evening and slept nine hours, and was very sleepy the next forenoon as a result of the increased dose. I think, by taking the drug for a time and gradually lessening the dose, the normal tendency to sleep will be reëstablished and my patient cured.

The drug costs four dollars per ounce. I find it soluble in twenty to thirty parts of very warm water; not so in cold water or alcohol. When dissolved it develops a bitter taste. I hope to hear from the profession regarding this new remedy, as I think it has a great future.

MEDICAL PROGRESS.

The Treatment of Traumatic Tetanus with Hydrobromate of Conine.—DEMME, (xxiv. Report of the Jenner Children's Hospital at Rome), after having relieved a case of rheumatic tetanus by means of hydrobromate of conine, was led to try the remedy in a case of traumatic variety. Fourteen days before admission, a robust boy had received a lacerated wound upon the right index finger from a saw. There was malaise on the second day; on the seventh, there was extension of the muscles of the extremities, trismus, opisthotonos; the intelligence was clear; pulse, 100; temperature normal; respiration 24. One twenty-fifth of a grain of hydrobromate of conine were immediately injected every two hours, with the result that the attacks generally became less frequent and decidedly shorter. The patient was again able to sleep and to swallow. There was profuse secretion of sweat and saliva. After the patient had received nineteen grains of conine in forty-eight hours, severe attacks of suffocation occurred, necessitating the withdrawal of the drug and the institution of artificial respiration. At times, there were signs of collapse. In the course of the next three days, during which chloral hydrate was given instead of conine, the tetanic attacks again became more frequent, while occasional manifestations of paralysis of the diaphragm and of the intercostal muscles simultaneously appeared. Besides, certain spots of pneumonic consolidation, present on admission, progressed. Death occurred on the fourth day. The autopsy revealed inhalation pneumonia (Schluckpneumonie) of both lungs, probably existing prior to admission. Notwithstanding the unfavorable termination, the author recommends conine for further, carefully conducted experiments, as he maintains that probably after further new experience recovery may be attained in cases of a less acute character.—*Medicin. Chirurg. Rundschau*, August 1, 1888.

Substitute for Cod-liver Oil.—The following combination is highly recommended by LAMANDE for delicate stomachs which refuse cod-liver oil:

℞.—Glycerin . . . . . ℥x.
Tinct. iodi. . . . . ℥ss.
Potass. iodidi . . . . . grs. xij.—M.
Sig. A teaspoonful fifteen minutes before meals.—*Gazette Médicale*, August, 1888.

Test for Liver Diseases by the Saliva.—FENWICK, of London, gives his method of procedure as follows: "A solution of sulphocyanide of iron was prepared of definite strength, and was graduated by successive dilutions, so that each was only three-quarters of that above it. These were placed in the small flat bottles used by spec-

troscopists, each bottle being of equal thickness. He took his own saliva, which agreed in color with that formerly taken as normal (which was obtained by mixing the salivas of a number of healthy people together) as the normal standard, and the bottles were labelled + or —, according as they differed from it. Each of the salivas, when examined, was mixed with a definite quantity of the tincture of the perchloride of iron, filtered through cotton-wool and being placed in a spectroscopic bottle of equal thickness was carefully compared with the graduated strengths of the sulphocyanide of iron."

Five hundred patients in the hospital wards were thus examined, week by week, besides a large number of others who were subjected to a less rigid examination.

The results, to say the least, are very interesting. We have only space to refer to those obtained from thirteen cases of typhoid. In these, during the second week previous to convalescence (*i.e.*, the date at which the normal temperature was first permanently resumed) the amount of sulphocyanide was + ¼ (as the saliva was at this time in very small quantity, the total amount of the test present must have been very small), in the succeeding week it rose to + 2; in the first week after convalescence to + 2¾; in the second week to + 3¼; in the third to + 2¾; in the fourth to + 3; and remained high till after the seventh week of convalescence, in some instances rising to + 7. Another point of interest lies in the fact that where the duration of the febrile stage was short the increase of the salivary salt was less abrupt, but the duration of the convalescence, as shown by the increase of salt, was longer. Hence the amount of the salt secreted during the first week of convalescence should help us greatly in our attempts to foretell the length of this, and prove, therefore, a fact of high value. But we cannot help remarking that the statement that typhoid with a febrile stage of less than twenty-one days nas a longer convalescence than the same disease when the fever exceeds twenty-one days is a very hard saying in the ears of any practical physician.—*Birmingham Medical Review*, August, 1888.

Tubercular Meningitis.—M. LEMOINE, in the *Revue Special de l'Antiseptics*, speaks highly of the internal administration of iodoform in this disease, and urges its employment from the beginning of the attack. He has given as much as eight grains daily, for a period of three months, with the happiest results, no toxic effects being noted. It is administered in capsules, and he thinks the addition of a little ether of advantage in aiding its absorption.

Œdema from Antipyrin.—GROGNOT relates the case of a patient who took fifteen grains of antipyrin and in twenty minutes experienced marked dryness of the throat and nasal passages and great dyspnœa. The voice became husky and the face rapidly grew œdematous and pale. The œdema was especially noticeable about the lower jaw and under the eyes. These symptoms disappeared in half an hour, but returned on another occasion when antipyrin was again administered.—*Bulletin General Therapeutique*, August, 1888.

Smokers' Vertigo.—DECAISNE, in an address before the Paris Academy of Medicine (*Deutsche med. Ztg.*, No. 51, 1888), ascribed the vertigo to which smokers are prone, to the contraction of the cerebral vessels, as it has been experimentally shown that nicotine stimulates the muscular layer of the vessels. The patient has a sensation of emptiness, a feeling as if he were about to lose consciousness. He makes the greatest effort to recover himself, but fails to do so. His movements are incoördinate and the senses receive the most deceptive impressions. Everything seems to revolve about the patient, and when he closes his eyes, his body seems to participate in this movement.

Decaisne thus summarizes the results of his twenty-five years' experience: 1. Of sixty-three persons from twenty-nine to sixty-six years of age, forty-nine or fifty were sixty-six years old. 2. More than half manifested, besides the vertigo, digestive disorders, alternate constipation and diarrhœa, dyspnœa, increased uninary secretion, sleeplessness and palpitations; a third showed intermittent pulse and angina granulosa; some emphysema, aphtha, amblyopia and bloody expectoration. 3. Thirty-seven observations refer to smoking upon an empty stomach; in these the vertigo almost always appeared in the morning. 4. In one-third of the cases, the occurrence of the vertigo was associated with suppression of the perspiration and marked diminution of the urinary secretion. 5. The symptoms of smokers' vertigo were several times confounded with those of cerebral congestion and even with those of cardiac disease. The symptoms of congestion are explained by the contraction of the vessels giving way to relaxation. 6. The general treatment consists in the absolute withdrawal of tobacco and, in some cases, in the regulation of the mode of living. To this Decaisne usually adds laxatives, warm baths, magnesia and bitter tonics. On twenty-eight occasions, in the progress of the attack, he has made subcutaneous injections of ether, which overcame the vertigo in six or seven minutes. Seven of thirty-nine persons who smoked on an empty stomach, thirty three had the vertigo disappear immediately upon smoking only after taking food. —*Medicin. Chirurg. Rundschau*, August 1, 1888.

Creolin in Purulent Ophthalmia and Gonorrhœa.—Acute and chronic purulent ophthalmia is satisfactorily treated, according to DR. MARGARITTI, by means of a solution of creolin of the strength of 1 in 400. This is instilled into the eyes and used for moistening compresses which are applied externally. At first a burning sensation is experienced, but after about five minutes this subsides and the eyes feel much more easy, and the patient is able to open them without difficulty. Gonorrhœa which has resisted other treatment has frequently yielded in Dr. Margaritti's practice to irrigations, twice daily, with a solution of creolin of the strength of 5 to 8 per cent., administered through a hollow sound.—*Lancet*, August 18, 1888.

Cocaine in Ophthalmic Surgery.—There have been published a number of cases of corneal opacity following upon cataract operation in which cocaine had been used. WICHERKUWICZ (*Allg. Wiener. med. Ztg.*, No. 1, 1888) ascribes the complication to the too liberal use of strong solutions; he, therefore, applies a three to five per cent. solution but twice shortly before the operation and has since met with no opacities. Cocaine diminishes the intraocular pressure, and the frequent instillation may, after the operation, induce such a diminution that the

margins of the wound do not approximate, in consequence of which the nutrition of the cornea suffers, as evidenced subsequently by an opacity of the parenchyma. For the same reason he makes incisions and performs iridectomies without cocaine, or he confines himself to a single instillation of a weak solution. The author recommends the subcutaneous use of cocaine in the removal of small swellings, in ectropion, ptosis and trichiasis operations, etc. He makes, antiseptically, four punctures in the region of the area of operation, and employs half a syringeful of a three to five per cent. solution, the needle being introduced obliquely and to a sufficient depth beneath the skin. As the anæsthesia from subcutaneous injection occurs later than that from the local use, it is advisable to make the injection ten to fifteen minutes before the operation.—*Medicin. Chirurg. Rundschau*, August 1; from *Breslauer ärztl. Zeitschr.*, No. 11, 1888.

Vapor of Ipecacuanha Wine in Bronchitis.—According to MORRELL, of London, great benefit is derived in chronic bronchitis from the inhalation of the vapor of wine of ipecacuanha. He has used it in fibroid phthisis and obtained great amelioration, even when no constitutional means were employed. The vapor should be inhaled when hot and the patient kept in a warm room for some time after. It may be used for ten minutes at a time, three or four times a day. In hoarseness, due to acute congestion of the vocal cords, it is especially serviceable. —*L' Union Médicale.*

Accidents caused by the Exploring Needle.—DR. BIGGS, of New York, draws especial attention to the fact that the exploring needle is not a harmless instrument. He mentioned cases of pneumo-thorax caused by it, some of which were fatal, and draws the following conclusions:

1. The employment of the exploring needle is not infrequently attended by considerable danger, and a number of deaths have directly resulted from its use.

2. The indiscriminate, careless and routine resort to exploration with a needle should be condemned. This procedure should not be resorted to without careful consideration of the conditions obtaining in each case and the results that may follow the puncture. The site for the puncture should be thoughtfully chosen, the puncture carefully made with complete antiseptic precautions and the smallest needle that will answer the purpose employed.

3. The puncture of collections of fluids with tense walls in relation with serous surfaces should be, as far as possible, avoided, and, if it is resorted to, sufficient fluid should be withdrawn to relieve the tension upon the walls of the sac. In many cases certainly an exploratory operation would be attended by less danger.

4. In the introduction of the needle into deeply seated infectious matter the nature of the intervening tissue should be carefully considered.

5. The needle before use should be always thoroughly disinfected, preferably by heating in the flame of an alcohol lamp or a Bunsen burner.

6. The skin where the puncture is to be made should be rendered thoroughly aseptic by first scrubbing with soap and water and then washing with an antiseptic solution.

7. The dangers attending the use of this valuable adjuvant in diagnosis should not in the slightest interfere with its employment in properly selected cases, where due precautions are observed as to its use.—*New York Medical Journal*, August 18, 1888.

Effect of Nicotine on the Female Generative Organs.—Recent investigations in Paris tend to show that the women working in tobacco factories are considerably affected by the nicotine. Those becoming pregnant habitually abort and the menstrual periods are very irregular. Nicotine, being a motor-excitant, has a direct action on the uterine walls.—*Journal de Médecine*, Aug. 1888.

The Technique and the Value of Mucous Membrane Transplantation.—WÖLFLER (*Congress of Surgery*, xvii.) states that his method of repairing deficiencies of the mucous membrane, after the removal of cicatrices, is of equal importance to Thiersch's method of skin grafting, in the healing of wounds of the cutaneous surface. By this means, it has become possible on a more extensive scale than heretofore, to remove cicatrices from the mucous membrane of the œsophagus, of the buccal cavity, of the rectum, of the urethra, etc. The author applied grafts in a manner similar to that followed in skin grafting, obtaining his tissue, however, from the mucous membrane of prolapsus uteri, prolapsus recti, etc.; later on, he used the mucous membrane of the frog's stomach, of the rabbit's bladder, etc.; these proved entirely efficient. In this way the author was enabled, in three cases of impassable stricture of the urethra, after excision of the obstructing stricture, to create a new mucous membrane. He also used this method, with good results, in two cases of blepharoplasty, in one case each of rhino- and meloplasty. Thiersch commends this measure as a most important advance.—*Medicin. Chirurg. Rundschau*, August 1.

Treatment of Leukæmia.—The *Zeitschrift f. klin. Medicin.*, Band XL., Heft 122, contains a report by STICKER of the recovery of a case of leukæmia by oxygen treatment.

The patient was in good circumstances, and up to his twenty-third year enjoyed sound health. He then began to suffer from indigestion, a sense of oppression on the chest, hoarseness now and then and rapidly increasing weakness. This condition was succeeded by frequent and copious epistaxis and urine muddy on standing. In about two years his body commenced swelling, and the weakness, difficult breathing, want of appetite and other usual symptoms, increased in severity. The spleen enlarged, forming a tumor; the liver got bigger and more resistant than normal; and the acute pain caused by percussing the lower half of the breast bone pointed to leukæmia of the marrow. An examination of the blood left no doubt as to the diagnosis.

The change seemed magical. The pallid, weak, ill-nourished, œdematous individual, who with great difficulty trailed himself into the hospital, leaning on a staff, left the ward in four months with red cheeks and lips, upright and able to walk a good few hours a day without fatigue. But the improvement was of short duration. In a few weeks he lost his appetite, his skin became pale, his feet swelled and he passed the greater part of his time in bed. The epistaxis returned. He got rapidly weaker. Bronchitis set in, the labyrinth of the ear be-

came affected, delusions of sight and hearing plagued him day and night, and in three months from the return of the disease he died thoroughly exhausted.

The most interesting point in connection with the case is the speedy partial recovery and swift relapse. The marked improvement in the symptoms is attributed, by the author, to the inhalation of oxygen. He carefully eliminates all the other factors, at least, to his own satisfaction, and thinks the inhalation of oxygen the cause of cure, whatever may be the explanation. The theory of action he gives is rather fanciful. The white corpuscles, lying thickly in the lung capillaries, give oxygen to the red and thus are never saturated. If these white corpuscles receive oxygen in a concentrated form, both they and the tissues receive enough of oxygen for healthy chemical work. The tissues oxidize as they ought, and the white corpuscles themselves get more vigorous constitutions, and are thereby enabled to transform themselves into red blood-corpuscles.

Another theory, however, is possible. Chlorine gas, though in a very dilute form, was inhaled along with the oxygen (owing to the method employed in getting the oxygen). Might not the chlorine also have some part to play in the cure? Experiments in this direction would be interesting.—*Medical Chronicle*, August, 1888.

Treatment of Septicæmia.—In a case of septicæmia occurring during a pyopneumothorax, where the patient presented the gravest symptoms of poisoning, MOIZARD obtained a cure by injecting in the pleural sac an ounce of an antiseptic solution whose formula is the following:

℞.—Tinct. iodi.
Alcohol.,
Liq. potass. iodidi (1 : 10) . . āā ℥ij.—M.

With the exception of a slight and transient pain, the patient experienced no suffering and made a rapid recovery.—*L' Union Médicale*, August 11, 1888.

Abnormal Growths on the Skin.—Such formations as warts and horny excrescences are treated very successfully in the following manner: The growth and surrounding tissue is first cleansed with a solution of boric acid, and then thickly covered with crystals of pure salicylic acid over which a band of lint is placed, the whole being enveloped in gutta-percha dressing. At the expiration of eight days the coverings are removed and the growth found to be shrivelled and completely detached, the underlying skin showing no trace of hemorrhage or cauterization.—*L' Union Médicale*, August, 1888.

Antipyrin for Hemorrhoidal Ulcers.—SCHREIBER (*Therap. Monatsh.*, July), acting upon a suggestion of Neudörfer, used, with success, antipyrin for hemorrhoidal ulcers, after alum, zinc, morphine, cocaine and belladonna had failed to give permanent relief. The remedy was finely powdered and applied to the injured surface. The contact caused slight pain, lasting about thirty seconds. The powder distributed itself and in ten minutes the surface became moistened. By this time, the pain was markedly diminished. The patient improved. The application was followed by a quiet night and the itching was reduced to a minimum. The drug was first applied once daily, then twice daily. After twenty days, the ulcers had cicatrized. They have not since reopened, nor had new ones formed.

"The statements of Neudörfer that the analgesic and antiseptic properties of antipyrin are more important than its antipyretic, and that it deserves the synonyms of anodynin and asepsin are confirmed by this case."

Sulphurous Acid Fumigation in Pertussis.—DR. MANBY speaks highly of this plan of treatment. The children are in the morning put into clean clother and removed elsewhere. All their clothes and toys, etc., are brought into their bed-room and sulphur is burnt upon a few live coals in the middle of the room. The fire is allowed to remain in the room for five hours, and then the windows and doors are thrown open. The child sleeps in the room the same evening. About 25 grammes (a little under an ounce) of sulphur to every cubic metre may burnt; this is equivalent to rather more than 10 grains per cubic foot. The additional precautions was taken of having the day-room fumigated in a like manner during the night; the children practically lived in an atmosphere of diluted sulphurous acid gas for some days, while in several cases I had the process repeated at the end of a week.

In every instance, without exception, my observation leads me to look upon the method as a practical cure for whooping-cough. There is no doubt about it; mothers and nurses all agree with me that an immediate improvement is effected. Cough is lessened in frequency, expectoration of the thick clogging mucus much facilitated, paroxysms lessened in violence and sickness after them, as a consequence, scarcely known. The children pick up quickly, and in no case has the caugh lasted in its form of reduced violence more than a fortnight after the treatment commenced; it gradually but surely abates and ceases. I have had no specially severe bronchitic or pneumonic complications to deal with in the twenty or more cases in which I have applied the treatment, but I do not think I should desist if such complications existed.—*Practitioner*, August, 1888.

Eucalyptol and Idoform in Skin Diseases.—In attempting to prove the value of these drugs, administered together, hypodermatically, in the treatment of lung diseases, MAISON has found that they are of especial value in cutaneous affections. They seem to be especially indicated in the squamous variety. In one case of ichthyosis he obtained great improvement. The dose of iodoform should not exceed two grains, given once in three days. —*Journal de Médecine de Paris*, August 12, 1888.

The Relations between Deafness and Albuminuria.—GELLI (*Semaine Médicale*, No. 13, 1888) reports the case of a patient, under treatment for paralysis of the right vocal band, suddenly affected with total deafness, a careful examination of the ear showing nothing abnormal; an analysis of the urine, however, disclosed a small amount of albumin; eighteen months later, the patient died, with symptoms of chronic Bright's disease, having never recovered the power of hearing. The case illustrates the fact that sudden, complete and incorrigible deafness may set in, without any peripheral injury of the ear at all. Under such circumstances, the attention of the physician should always be directed to some existing general dyscrasia. As to the genesis of the albumin-

uria in his case, Gellé believes there was a connection with the paralysis of the vocal band, which in its turn was due to a paralysis of the recurrent laryngeal nerve by a mediastinal tumor. The author believes that the inflammatory irritation of the recurrent exerted a reflex influence upon the nervous centres with bulb. HENRIOT, from a case in which diabetes mellitus existed in a patient with a tumor in the course of the vagus nerve, believes such influences as pathogenetic of diabetes mellitus, too.—*Medicin. Chirurg, Rundschau*, August 1; from *Monatsschr. F. Ohrenheilk.*, No. 6, 1888.

Paquelin Cautery in Epididymitis.—According to DR. BREWER, excellent results are derived from the use of the Paquelin cautery. He has employed this method in forty-six cases, and in two cases only was it necessary for the patient to remain in bed after the first application, and in one the real cause of the enforced rest was a coexisting cystitis. The details of the procedure, according to Dr. Halsted, who first suggested it, are as follows: The cautery point is heated to a white hot temperature, and the surface of the skin overlying the affected organ is then lightly touched with the cautery. The operation requires only a few seconds, and need not be more than moderately painful. A dressing of iodoform ointment is then applied, and the patient is instructed to wear a suspensory bandage. Instant relief from pain is said almost invariably to follow the employment of this treatment, and the patient, as a rule, is able to be up and walk about in comparative comfort. The author adds that he has also found that marked relief from pain in gonorrhœal rheumatism can be obtained by a similar use of the cautery and iodoform ointment.—*Medical Press*, August 1, 1888.

Varieties of Diphtheria. Remarks upon Treatment.—During an epidemic of diphtheritis in Hedemarken, BRYHN (*Norsk Magaz. for Largeoid.*, 1888, No. 5) observed several cases of gangrenous erysipelas, clearly originating in diphtheria. In an isolated village in which a physician was treating a child with an extensive diphtheritic deposit in the fauces, a girl in a neighboring house, who had a couple of ulcerated fingers, was found to have an erysipelatous swelling on one labium majus, with a black crust between this and the original crease. Her throat was not involved. Later on, two sisters of the first patient were attacked with ordinary diphtheria. It transpired that the mother of the girl with gangrenous erysipelas of the vulvæ had had a sore breast two weeks before, and that the girl with diphtheria had washed linen from the neighboring house, with which the wound was covered. The woman had elsewhere nursed a child which it was said had died of diphtheria. Four others visited the sick child. One, at first had a red swelling on one finger and, later, symptoms of laryngeal diphtheria; another, a gangrenous spot upon the thumb, without other diphtheritic deposits.

In the treatment, the author recommends a warm twenty per cent. solution of boroglyceride, applied to the places on the throat from which the membrane has been previously removed, Besides a gargle consisting of fifteen parts of benzoate of sodium, five of oil of eucalyptus and seventy-five of water is used, which in appropriate cases may be employed to wash the nasal cavity. Internally, five to fifteen drops of a spirituous solution of perchloride of iron, in a teaspoonful of water, are given every two hours. The treatment often leads to a successful result in three or four days, even in severe cases. —*Medicin. Chirurg. Rundschau*, August 1.

Physostigma in Tetanus.—A case of transmissable tetanus, occuring in a lad of nineteen years, and cured by use of physostigma is reported in the *Lancet* for August 18.

The patient received a lacerated wound on the outer side of the right hand which was dressed antiseptically and did well for about ten days. At the end of that time he complained of a sore throat and stiff neck and tetanus rapidly developed. The angles of the mouth were drawn up and the masseters very rigid. Mastication impossible. One grain of the extract of physostigma was given every hour, subsequently increased to two grains hourly. Under the treatment the spasms grew less and the patient ultimately recovered.

Diabetic Coma.—On the hypothesis that this is largely due to oxybutyric acid, M. LÉPSINE treats it with alkalies. He saturates a quart of water with citric acid and adds an ounce of bicarbonate of sodium. The frequency and dose to be regulated by the severity of the symptoms. Under this treatment the oxybutyric acid disappears from the urine and other untoward results are avoided.—*Gazette Hebdomadaire des Sciences Méd.*, August, 1888.

Oxalate of Cerium for Sea-sickness.—Of all remedies which have been recommended for sea-sickness, GARDNER (*Allg. med. Centr. Ztg.*, No. 53) has found none so well adapted as oxalate of cerium. He recommends doses of from nine to eighteen grains, in a tablespoonful of water, every three hours. In these doses the remedy is well borne. Much smaller doses were used, but they failed. In a case of aggravated indigestion he gave the patient five doses of five grains each, at intervals of two hours. In a severe attack of cardialgia the patient took eighteen grains and secured relief. In another case, one of gunshot wound of the abdomen, persistent and obstinate vomiting set in, probably from injury of some branches of the solar plexus. Nine grain doses afforded great relief. The author has, besides, used the remedy in hundreds of cases of migraine, nausea and vomiting of pregnancy, etc., with the best results. For adults average doses of nine grains are requisite. In this amount he has found the drug useful for the harassing cough of phthisis. The mode of action is not certainly known, but it is believed to depend upon a sedative influence upon the vagus and sympatheticus nerves. Untoward action has not been observed even when twenty-two grains were given in twenty-four hours.—*Wiener med. Presse*, No. 30, 1888.

Volatile Alkaloids of Cod-liver Oil.—Among the six alkaloids of cod-liver oil, GAUTIER and MOURGUES have found that butylamine increases the functions of the skin and kidneys, and in large doses produces stupor and vomiting.

Amylamine increases the urinary secretion and the reflex activity, and in large doses induces convulsions.

Dihydrolutine is more poisonous and diminishes the general sensibility. Large doses given to quadrupeds cause a profound depression, broken by periods of excitement and paralysis of the rear limbs.—*L'Union Médicale*, August 11, 1888.

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

COMMUNICATIONS are invited from all parts of the world. Original articles contributed exclusively to THE MEDICAL NEWS will be liberally paid for upon publication. When necessary to elucidate the text, illustrations will be furnished without cost to the author. Editor's address, No. 1004 Walnut St., Philadelphia.

SUBSCRIPTION PRICE, INCLUDING POSTAGE,

PER ANNUM, IN ADVANCE . . . . . $5.00.

SINGLE COPIES . . . . . 10 CENTS.

Subscriptions may begin at any date. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made, at the risk of the publishers, by forwarding in *registered* letters.

Address, LEA BROTHERS & CO.,
Nos. 706 & 708 SANSOM STREET,
PHILADELPHIA.

SATURDAY, SEPTEMBER 8, 1888.

PROPHYLACTIC MEASURES AGAINST TUBERCULOSIS IN CATTLE.

AT the recent French Congress for the study of tuberculosis, certain propositions were presented by the President, M. Chauveau, and adopted, which relate to special prophylactic measures necessary to be observed in dealing with the contagious diseases of domestic animals, especially those which may be transmitted to man. The French government, upon the adjournment of the Congress, with commendable alacrity, adopted regulations suggested by the action of the Congress, which are to be enforced for the prevention of the transmission of tuberculosis from animals of the bovine species. Cattle are to be placed under the supervision of sanitary veterinary surgeons, and animals found to be tuberculous are to be isolated and sequestrated, and when killed must be killed in the presence of the inspector, who must make a post-mortem examination. Meats obtained from such animals, when the lesions are definitely ascertained, are excluded from sale, and are not even to be fed to animals, but must be destroyed. The sale of milk from tubercular cows is forbidden, though after being boiled it may be fed to animals.

In the census report of the United States for 1880, pulmonary consumption stands first in point of frequency upon the list of deaths from all diseases. This great enemy of the human race is steadily slaying its thousands, without popular comment or without inciting any well-directed effort to limit its progress. The appearance of yellow fever, cholera or smallpox in a community throws the country into alarm, and no effort is spared to restrict their spread. Yet the deaths from these diseases are inconsiderable in comparison with those from tuberculosis. Some years ago the National Board of Health started investigations of the diseases of domestic animals liable to be transmitted to the human race, and the inquiry gave promise of tangible results, but it terminated with the existence of the Board. The general government is now pursuing an inspection of cattle with the view of detecting tubercular animals and preventing the spread of disease among the herds; but this service is based upon a law limited in its provisions and which does not compare in scope and completeness with that just formulated by the French government.

Tuberculosis being recognized as a contagious disease and in all probability transmissible from animals of the bovine species to man, it is the duty of the State or general government to enforce stringent measures directed against the spread of this disease, and forbid the sale or use of meats from animals affected by it. As it is probable that infection is conveyed by alimentation, particularly by milk, the sale and use of milk from tubercular cows should be forbidden. In the absence of such a regulation, or its enforcement, safety lies in the practice of boiling the milk before using it.

ARMY MEDICAL EXAMINING BOARD.

SINCE the notice in our issue of August 11th, that this Board would be convened in New York on October 1, 1888, we have received several letters asking for further information in regard to it. It is very natural that those at a distance who are thinking of presenting themselves should desire to know something of the scope and requirements of that examination, before incurring the expense of a long journey. We are glad to be able to inform our readers on the subject.

Some conditions preliminary to the examination were given in the notice above referred to—these should be borne in mind. The physical examination comes first and, we are told, is rigid. The hardships and exposure incident to the military service require a vigorous frame, robust health, the full use of all the senses, and a vitality unimpaired by hereditary tendencies or by excesses.

The preliminary examination is designed to ascertain if the candidate has such general knowledge as

will enable him to associate with educated people with credit to the medical department. It includes arithmetic, geography and history, especially, of the United States, and general literature. A more extended and varied knowledge is much desired, but these are essential. The candidate's knowledge of chemistry and physics must be such as to furnish a good foundation for the more strictly professional branches, such as physiology and hygiene, which, it will be conceded, depend greatly upon them.

The professional branches examined on are those usually reckoned as such in medical colleges, but hygiene is given more attention than it often receives in the schools. The necessity for a knowledge of this subject for military medical men, whose duties are conspicuously those of sanitary officers, is obvious. An intimate acquaintance with the so-called specialties is not required, but the candidate's knowledge of them must be sufficient to enable him to recognize cases that may occur in his service, often isolated and distant from opportunities for consultation. He should be, we take it, a well-rounded general practitioner.

The candidate's knowledge of Latin must be sufficient to enable him to write a prescription correctly, and to use intelligently the technical terms used in medical science. Certainly less could not be expected. More extended acquaintance with the classics, a knowledge of the modern languages and of special branches of science, though greatly desired in a candidate, are not essential to success. Their possession does, however, give advantage in relative standing among those equally well prepared in medicine and surgery.

Preference is always given to applicants who have had experience in practice, especially in hospitals. We understand that the examination, both preliminary and professional, is largely a written one, but that it always includes examination at the bedside and in operating on the cadaver.

In conclusion we can confidently assure all who propose to present themselves that this examination is thoroughly impartial. Every man is judged by his merits alone, and no political, personal or social influence can affect the action of the Board.

ON another page we present the communication made by M. Pasteur to the Academy of Sciences of Paris concerning the alleged discovery by Dr. Gamaleïa, of Odessa, of an attenuated virus which confers immunity from cholera. In France this is claimed as a brilliant confirmation of the two great principles of the experimental method of Pasteur, that of progressive virulence, and of chemical vaccine. Dr. Gamaleïa was a student for many months in Pasteur's laboratory and is entirely familiar with the mode of preparation of virus for vaccination, and particularly of that of hydrophobia, as practised there.

THE arrangements for the First Congress of American Physicians and Surgeons, which is to meet at Washington on the 18th, 19th and 20th of this month, are complete, and the entire programme, covering a quarto-pamphlet of forty-eight pages, has just been issued. The indications are of a large representative gathering, and we understand that a number of gentlemen from abroad have indicated their intention of participating in the meeting. The list includes Sir Spencer Wells, Sir Andrew Clark, Sir William MacCormac, Drs. W. O. Priestly, William Ord, Graily Hewitt, Grainger Stewart, Mr. Lawson Tait, Mr. Victor Horsley, Mr. Thomas Bryant, Mr. Thomas Annandale, Professors Ferrier, Esmarch and Gerhardt, Drs. Reverdin and Rafael Lavista.

The Congress will transact no business during the meeting, not even electing officers. Dr. Billings has been selected by the Executive Committee to preside over the Congress, and the President of the next Congress will be selected in a similar way. The object of the meeting is solely the discussion of topics relating to medical science, and the detailed programme gives promise of a most instructive and successful meeting.

THE Mississippi Valley Medical Association will meet in Pickwick Theatre, Jefferson and Washington Avenues, in St. Louis, September 25, 26 and 27, 1888, two weeks later than first announced.

This date was selected in order that the cheap railway rates during the Carnival season of St. Louis might be made available.

THE Editorial Committee of the New Austrian Pharmacopœia has completed its labors. The new work will probably be published during the course of this year and go into operation at the beginning of the next.

A CASE of rabies in the horse is reported to have occurred at Brooklyn, New York; the attack supervening upon the bite of a dog known to be rabid,

after an interval of incubation of thirty-six days. After the full establishment of the disease it was observed that the frenzy was especially prompt and characteristic, at the sight of water or some other glittering object. The horse became utterly unmanageable, kicking and plunging, and snapping violently with the jaws, two or more of the teeth being broken by the violence of this spasmodic action; he occasionally emitted paroxysmal outcries, somewhat similar, it was thought by some, to the bark of a dog. In the end, it became necessary to destroy the animal by shooting in order to abbreviate his agonies. The case was seen by numerous experienced veterinarians of the locality, who were unanimously of the opinion that the disease was quite properly described as equine hydrophobia, the causation of which was the bite of a mad dog, the symptoms declaring themselves at the end of the fifth week.

DR. JAMES E. REEVES, of Chattanooga, formerly of Wheeling, West Virginia, will make an inspection of the State and municipal quarantines along the southern border, under instructions from the State Board of Health of Tennessee.

LEWIN (Berlin), Kaposi (Vienna), Pick (Prague) and Neisser (Breslau), are taking the initiatory steps for a Dermatological Congress to be shortly held at Berlin.

PROF. LEHMANN has declined the proffer of the Chair of Hygiene at Giessen, as the faculty and board of directors of the University of Würzburg have acceded to his request for the establishment of an institute of hygiene.

DR. SAHLI, of Berlin, has been made ordinary professor and director of the medical clinic at Berne, in place of Prof. Lichtheim, who has been called to Königsberg.

AT an Annual Meeting of the New Brunswick Medical Society held at St. John, in July, a paper on Leprosy was presented by Dr. G. A. Hetherington, who has recently inspected the lazaretto at Tracadie. He exhibited photographs, taken by himself, of the hospital and its inmates. He stated that, while the larger proportion of lepers in the province find their way to the lazaretto, there are still a considerable number of them at large in the district along the Bay of Chaleurs, and he recommended that the necessary steps should be taken to have them confined to the hospital.

THE Mayland Institute of Science, Art and Literature has offered the following prizes upon medical subjects, for which others than Italians may compete: 1. First Prize Cagnola ($300 and a gold medal worth $100): The history of hypnotism; a critical investigation of all that pertains to the subsubject, and a record of private experience. To be received until April 30, 1889. 2. Second Prize Cagnola ($500 and a gold medal worth $100): A thoroughly supported explanation of the efficacy of pellagra, or upon the nature of the miasmatic and contagious poisons. To be handed in by December 31, 1888. 3. Prize Fossatis ($800): Upon the embryogeny of the nervous system or of a portion of it in mammals, with illustrations of original investigations. To be sent in by April 30, 1890. Particulars may be had from La Segreteria del R. Instituto Lombardo di Scienze, Lettere ed Arti, Pala 770 di Breza, Milano.

A BACTERIOLOGICAL laboratory will be established at the University of Königsburg, in conjunction with the pathologico-anatomical laboratory. Prof. Baumgarten is expected to assume charge of the new department.

REVIEWS.

PTOMAINES AND LEUCOMAINES; OR THE PUTREFACTIVE AND PHYSIOLOGICAL ALKALOIDS. By VICTOR C. VAUGHAN, Ph.D., M.D., Professor of Hygiene and Physiological Chemistry in the University of Michigan, and Director of the Hygienic Laboratory; and FREDERICK G. NOVY, M.S., Instructor in Hygiene and Physiological Chemistry in the University of Michigan. 8vo. pp. 316. Philadelphia: Lea Brothers & Co., 1888.

WE have perused with much pleasure this well-written volume, which discusses subjects of great practical and scientific interest to the physician, and especially to the toxicologist and pathologist. The discovery of the ptomaines has opened a new era in the toxicological chemistry of the alkaloids, and has very materially modified medico-legal investigations in cases of alleged poisoning by these bodies. It was formerly a comparatively easy task for the expert to determine, in a dead body, the presence or absence of one of the alkaloids, by the recognized chemical and physiological tests; but it is now vastly complicated by the circumstance that there may be present, in the manipulation, one or more of these most inconvenient *ptomaines*, which, from their close resemblance to the alkaloid sought for, may very seriously embarrass the result. Fortunately, however, the difficulty of the diagnosis is not insurmountable, and the proper methods to be adopted are detailed in the present work.

The chapter describing "Foods containing Poisonous Ptomaines" is full of practical suggestions. In it the authors show that those obscure, and hitherto unex-

plained cases of narcotic-irritant poisoning arising from eating certain articles of food supposed to be perfectly innocent, such as milk, ice-cream, cream puffs, canned provisions and cheese, are in reality due to poisonous ptomaines, generated under peculiar conditions by specific bacilli acting on the complex organic material. From all the above mentioned articles of food distinct ptomaines have been extracted. Among others is one of much interest, discovered by Professor Vaughan in cheese, in 1884, and named by him *tyrotoxicon;* and subsequently also found in certain samples of milk and ice-cream which had produced poisonous, and even fatal results.

Another interesting phase of this subject is "The Relation of Ptomaines to Disease," which is very clearly stated by the authors. The bacterial origin of infectious diseases is now pretty generally admitted; but the theories of the bacterial agency have not been so thoroughly settled. The idea advanced by our authors seems to us to be the correct one,—that the disease is not caused by the direct action of these microörganisms on the blood, nor by "their consuming the proteids of the body," but by the generation of one or more ptomaines—chemical poisons—which, by absorption into the blood, affect the great nerve-centres, the heart and lungs and thus produce the characteristic morbific effects. Each disease is believed to have its own special pathogenic bacillus, which is supposed to be capable of generating its own characteristic poison or poisons.

That this is not mere theory is shown by the fact that the bacteria of different disorders will furnish, by pure culture in various materials, these peculiar ptomaines, which, when injected into different animals produce very many (though perhaps not all) of the characteristic symptoms of the particular disease. This has been absolutely proven in the case of the bacilli of anthrax, cholera, typhoid fever and tetanus, each of which has furnished, by culture, and subsequent extraction by chemical means, its own peculiar ptomaine or ptomaines. These facts, of course, open up a wide field to the pathologist; and also, we may hope, will suggest a useful, practical one to the therapeutist.

The "Modes of Extracting Ptomaines," together with their "Chemistry," are fully and ably discussed in two separate chapters; but these do not specially claim our notice here.

The two chapters on "The Chemistry and Pathological Importance of the Leucomaines" our space will permit us to notice only very briefly.

By *leucomaines* are understood "those basic substances which are found in the living tissues, either as the products of fermentative changes, or of retrograde metamorphosis." With some of these bodies we have been familiar in the past—such as creatine and creatinine, together with their derivatives, as also with the uric acid group. The researches of Gautier, Selmi and other investigators have revealed the existence of many other similar leucomaines, procured from the urine, muscular flesh and other animal, and even vegetable tissue. Among the most interesting of these, and of special importance to the sanitarian and physician, are the poisonous products obtained from expired air, as lately shown by the experiments of Brown-Séquard and R. Wurtz.

The *origin* of these leucomaines is undoubtedly to be ascribed to the metabolic changes constantly going on in the living body, by which the complex proteid molecule is split up into successive products, until it reaches its final conversion into urea, ammonia, water and carbonic acid. This incessant metabolic change appears to be an essential condition of organic life; and the elimination of the numerous resulting poisonous leucomaines from the economy, or their destruction or neutralization within the economy, seems to be amply provided for in the healthy organism; whilst any disturbance of its normal, healthy activities is sure to be followed by disease, in consequence of the retention of these morbific products.

We may congratulate the authors of this work on its intrinsic merits, and on its mode of execution; and at the same time we can cordially recommend it to the study of the profession.

SOCIETY PROCEEDINGS.

CONGRESS ON TUBERCULOSIS OF MAN AND ANIMALS.

Held in Paris, July 25 to 31, 1888.

(*Specially reported for* THE MEDICAL NEWS.)

(Concluded from page 248)

JULY 31ST.—MORNING SESSION.

EARLY DIAGNOSIS OF PULMONARY CONSUMPTION.

M. ESPINAY CAPO, of Madrid, said that one of the important points to consider in the diagnosis, is the study of the development of the thorax. If the circumference of the thorax in the mammary line is not half the height of the individual between eighteen and twenty-four years of age, this is sufficient to establish a diagnosis; if the circumference of the chest at the mammary line is not above thirty inches, we must suspect diminished pulmonary capacity, also if the distance between the two nipples is not more than seven or eight inches, if the xiphoid circumference is not above thirty-two inches, we can suspect a more or less advanced tuberculosis. He also thinks that the sphygmograph can help us very much, and believes it affords one of the surest diagnostic signs; the first signs of tuberculosis have a certain influence on the descending line of the sphygmogram, on the dicrotism.

EXPERIMENTS ON ANIMALS IN THE DIAGNOSIS OF SCROFULO-TUBERCULOUS LESIONS OF MAN.

M. ARLOING called attention to the case of a young lady, of most healthy appearance, who suffered from a suppurative adenitis; rabbits were inoculated with the pus coming from the lesion and died tuberculous; the young lady also died later on from a miliary tuberculosis. He finds also a difference, when inoculations are made from attenuated tubercular adenitis in different animals, in some instances pus obtained from these lesions produced tuberculosis in guinea-pigs but not in rabbits; the same results he had obtained from inoculation made with pus from a middle ear suppuration, and yet all these patients have shown no trace of tuberculosis.

In another series of experiments, inoculations were made on rabbits and guinea-pigs from pus obtained from

an axillary suppurating adenitis, while no other symptoms of tuberculosis could be found. Both rabbits and guinea-pigs died of the disease, and the patient, also, later on from tubercular meningitis. He has been unable to establish any difference between the two viruses used; he thinks that there is only a different grade of virulence of the same virus, which is not due to different micro-organisms.

These diagnostic inoculations enable us to make out whether or not we have to deal with tubercular lesions, their degree of virulence, etc.

As regards local tuberculosis, out of seventeen patients eight were diagnosed as scrofulous, nine as tuberculous. Out of these eight scrofulous patients, who were diagnosed as such, inoculation in rabbits having given negative results, four never returned for examination, probably on account of having been cured by the operation, two kept well and two others remained questionable as to success. Of the nine tuberculous who were considered as such, having produced general tuberculosis in rabbits, two died, four presented suppuration eighteen months later, two never returned, one is cured or much better.

M. DAREMBERG has produced local tuberculosis in old rabbits and general tuberculosis in young rabbits, with a culture that had remained for some days at the temperature of the room.

M. LELOIR attached great importance to the mode of inoculation. He having introduced fragments of lupus under the skin of a rabbit he had negative results; but having placed these fragments in the anterior chamber of the eye, he succeeded. The rabbit being an expensive animal, he experimented on guinea-pigs, and found that inoculations of lupus under the skin produced no results; while those inoculations made directly into the peritoneum gave general infection at a later period—several months—four to five. When his inoculations were made at the same time in the peritoneum and skin, by placing a fragment of lupus in the peritoneum, which came out at the wound with a piece of epiploon, he obtained local tubercular lesions of the skin. This method of inoculation he has called "hypodermo-epiploid insertion." The development of the bacilli is probably accounted for by the great vascularity of the epiploon.

M. NOCARD does not believe that tuberculosis and scrofulosis are two different diseases, he thinks they are derived from the same microbe, which is attenuated in one case, virulent in the other; perhaps also the very limited number of bacilli in scrofulosis explains their comparatively mild action as regards the lesions, which contain them in great quantities.

ON INNATE AND ACQUIRED TUBERCULAR OPPORTUNITY.

M. LANDOUZY said that we all know that certain individuals are born with all the attributes necessary to become consumptive; these constitutions we ought to study closely, for they are important in a prophylactic as well as in a therapeutical point of view. He has already described a type, which he has called "Venetian," and prone to tuberculosis; this type is characterized by very thin, smooth, white skin, hairs of a red hue, blue eyes, and quite stout; these subjects must not be allowed to live in contact with tubercular patients, for if the disease places it hands on such persons it will prove to be particularly severe.

As regard the acquired opportunity to tuberculosis, in the first rank is variola (smallpox); a smallpox patient becomes a candidate for tuberculosis. Out of more than three hundred patients who had had variola he did not find ten who were not tuberculous, and these belonged to the higher classes of society; three of them were cardiac patients, and we know the tendency of arterio-sclerotic patients to be free from tubercular infection. Hence let us never place a variolous individual in contact with consumption; for his part, he does not allow or accept any variolous nurses in his wards, on account of this sensitiveness to the disease peculiar to them; this is an additional reason why the Government should make vaccination obligatory and by so doing destroy one of the favorite fields for the development of tubercle.

EVENING SESSION.

At this meeting, several short communications were made, in regard to the

TREATMENT OF TUBERCULOSIS,

but no new reliable methods were presented.

M. LUTON, of Reims, maintained that he still obtains good results from the use of salts of copper.

M. M. JORISEMME and CHAUVIN, of Liege, have used iodoform quite extensively.

M. LEGROUX uses the pulverized vapor of creasote 20 to 1000, in a closed room.

M. FREMY, of Nice, claimed superiority for the treatment in closed hospitals, where the patients are submitted to a very strict observation.

M. RAIMONDI, of Paris, advocated the use of hydrofluoric acid in tuberculosis.

M. ROUSSEL, of Paris, urged treatment by subcutaneous injection of eucalyptol and arseniate of strychnine.

THE PRESIDENT, M. CHAUVEAU, finally presented the following

PROPOSITIONS,

which the Congress adopted.

1st. It is necessary to place in the jurisdiction of the Boards of Health all questions having a relation to the contagious diseases of domestic animals, including even those that to-day do not appear to be transmitted to man. To vaccinia, glanders, hydrophobia, malignant carbuncle, tuberculosis, other infectious diseases can be added later, which will necessitate the same precaution.

2d. It is necessary to use every possible means, including indemnities to the owners, for the general application of the principle of seizing and destroying totally all meats derived from tubercular animals, whatever may be the extent of the specific lesions found on those animals.

3d. It is necessary to print simple instructions which are to be distributed in all cities and villages, and in which are contained the methods to prevent tubercular infection by alimentation, particularly by milk, and the manner of destroying the virulent qualities of the germs contained in the sputa, linen, beds, etc., of consumptive patients.

4th. The cow-houses must be especially placed under the watch of an inspector, especially those that produce and furnish the milk used in alimentation, so that the contagious diseases from which they may suffer, should not be communicated to man.

5th. That tuberculosis be inscribed in all the sanitary laws or regulations of the world, as a contagious disease, necessitating special prophylactic measures.

ADJOURNMENT.

The Congress then adjourned, after having elected unanimously, for the next Congress which is to take place in two years, Prof. Villemin, of Paris, as president.

REGULATIONS PROMULGATED BY THE FRENCH GOVERNMENT.

As soon as the above propositions were voted by the members of the Congress, the French Government adopted the following regulations in regard to tuberculosis, which are to be enforced:

As soon as tuberculosis is recognized in animals of the bovine species, the Prefect shall order the animal or animals to be placed under the care of a sanitary veterinary surgeon.

Any animal found to be tuberculous, is isolated and sequestrated. The animal cannot be removed unless it be to kill him, and this killing is done in presence of the sanitary veterinarian, who makes a post-mortem of the animal and sends an official report within five days to the Prefect.[1]

Meats obtained from the tubercular animals, are excluded from sale, when:

1st. The lesions have become generalized, that is, not confined exclusively to the visceral organs and their lymphatic glands.

2d. If the lesions, although localized, have invaded the greater part of an organ, or present themselves, as an eruption on the chest-walls, or abdominal cavity.

Those meats excluded from alimentation as well as the tubercular viscera, cannot be used for the feeding of animals and must be destroyed.

The skins are to be used only after they have been disinfected.

The sale and use of milk derived from tubercular cows, are forbidden. The milk, however, can be used on the spot, for feeding animals, after having been boiled.

OBSTETRICAL SOCIETY OF PHILADELPHIA,

Stated Meeting, June 8, 1888.

J. C. DACOSTA, M.D., IN THE CHAIR.

DR. C. B. PENROSE reported

TWO CASES OF EXTRA-UTERINE PREGNANCY; LAPAROTOMY AND RECOVERY.

CASE I.—M. C., aged thirty-two years, had had four children, the last, seven years ago, and two miscarriages, the last eleven years since. She was treated for syphilis and uterine retroversion in 1883. She applied for treatment again on February 6, 1888. She had been bleeding profusely from the vagina for thirteen days, and had suffered with continuous sharp pain in the left side for the same length of time. The pain and bleeding had started suddenly after heavy lifting. There were no signs of pregnancy. Vaginal examination revealed a small retroverted uterus and a tender cystic mass, about the size of a duck's egg, lying to the left of the fundus. Three days later the mass was again examined and found to have increased to the size of a large orange.

Laparotomy was performed February 10, 1888. The left tube was found distended at the outer half by a cyst the size of an orange. About three ounces of recent blood-clot were found in the Douglas's pouch. The cyst was very friable and easily ruptured. During the removal a considerable quantity of old blood-clot escaped into the peritoneal cavity. The left ovary was independent of the cyst in the left tube. The right ovary was cystic, and was also removed along with the right tube. The convalescence of this woman was uneventful. She has menstruated naturally since the operation. Three months after the operation her breasts became enlarged and painful and she was able to squeeze milk from them. This secretion of milk lasted for two weeks, until stopped by belladonna ointment. These mammary symptoms were the only signs of pregnancy exhibited before or after the operation, and Dr. Penrose asked if it is not an unusual occurrence for this secretion of milk to take place so long after the removal of the product of conception

CASE II.—E. B., aged twenty-eight, has had four children, the last one, a year ago; she had not menstruated since her last labor, until two months before she presented herself for treatment. She then began to bleed profusely, and to suffer with great pain in the left side. For the last few weeks the bleeding had been accompanied by the discharge of shreds from the vagina. Vaginal examination revealed a large cystic mass to the right of the uterus. Laporotomy was performed, May 22, 1888. To the right and posterior to the uterus was a blood cyst, about the size of an orange. The cyst was firmly adherent to the posterior surface of the uterus and to the right ovary and tube, and the right tube opened into the cyst.

This cannot be called a tubal pregnancy, the tube opens into the cyst. In each case there was disease of the opposite tube and ovary, the ovary being in each instance as large as a good-sized egg. The second patient is now out of bed.

DR. M. O'HARA said, in reference to the presence of milk in the first case, that he had seen one case in which milk never appeared. The mother was delivered at full term, and the child died. He did not think belladonna had any effect in arresting the secretion of milk.

DR. WILLIAM GOODELL said that anything producing irritation of the genito-urinary organs may cause the appearance of milk in the breasts. The presence of fibroid tumor may even do so.

DR. JOSEPH HOFFMAN reported a case of

PERITYPHLITIC ABSCESS ORIGINATING IN APPENDICITIS.

The patient, Mrs. B., married, with three children. When first seen she had a pulse of 128, and a correspondingly high temperature, and was unable to stir in bed without extreme pain. Careful questioning elicited the information that eight days previous she had slipped from a chair, causing severe pain thereby in the right iliac region. This continued up to the time at which he was called in, when she was compelled to take to her bed. The duration of her trouble, according to her own statement, was limited to a little more than a week, though,

[1] France in a territorial administrative point of view, is divided into eighty-six departments; the prefect is responsible to the central government for any thing that happens in his department.

in this connection, she mentioned the occurrence, previous to menstruation of an ill-smelling vaginal discharge. Examination per vaginam discovered the presence of a tumor to the right, along side the uterus, the touch of which gave her much pain. The rectum was empty, she having had a dysenteric attack the previous day. External examination was so painful that he did not attempt it. The pain in her back and right leg was intense. He decided that operation was necessary, and called in Dr. Joseph Price for consultation; but after an examination under ether he was somewhat uncertain as to the condition.

Operation being decided upon, an opening was made in the median line. The cæcal portion of the intestine was matted down and only freed with difficulty, The appendix was almost completely buried in pelvic tissue, and the temptation was great to tie it off piece by piece, though it was afterward enucleated by persistent effort. The cæcal portion of the bowel was almost gangrenous in spots and nearly ulcerated through. Surrounding this portion was a quantity of stinking pus, about two ounces. The pelvis was carefully washed out, no antiseptics being used, and a drainage tube introduced into the cul-de-sac, and a rubber tube led from the fossa through the incision, which was closed by seven deep and superficial sutures. Nothing was done with the bowel save to cleanse it. The bowels were at first moved by enemata, and after a quantity of scybalæ was discharged, calomel in one-sixth grain doses was given to clean the tongue and relieve bilious vomiting. The patient made an uninterrupted recovery, all the stitches being removed, as well as the tubes, by about the tenth day. The patient now, at the twenty-fourth day, is sitting up, entirely free from pain.

A curious feature of the case was that in three days after removal of the offending appendix, the patient remarked that she had not been so free from pain for two years, and then went on to give an exact history of her trouble, all of which pointed to perityphlitis.

The points, principally, to which attention may be called are the closing of the incision and the location of the same. Although central, drainage was perfect, and though sutured, it promptly healed, showing he thought that dogma, both as to location and to allowing the incision to remain open, is not wise. As in this case the central incision enabled them to remove at the same time an ovarian hæmatoma, otherwise out of reach, and as drainage was perfectly obtained, these points for such operation are worthy of special consideration.

DR. CHARLES B. PENROSE asked whether or not the pus was encysted around the cæcum or free in the peritoneal cavity.

DR. HOFFMAN said the pus became evident only on reaching the cæcum.

DR. PENROSE said that the cases in which it is proper to make an incision over the cæcum are those in which there is an encysted abscess around the cæcum or the appendix. If there is free pus in the peritoneal cavity, a median incision would probably be better.

DR. GOODELL said that he, on several occasions, had been obliged to sever the appendix from its attachment, in operations for the removal of ovarian tumors, and the operation has seemed to have no effect. It seems to be a useless appendage. He did not know that modern research had thrown any light upon its use. In removing the appendix he simply ligated it with silk and cut it off, carefully squeezing the end so that no fecal matter should remain.

DR. JOSEPH PRICE said that a few years ago ovariotomists regarded the appendix as sacred, as something that should never be touched. His case is of great interest. She had complained for two years, her trouble evidently beginning in an appendicitis. The cæcum was so much thickened and so low down in the pelvis as to suggest tubal disease. She, however, had a good history and several healthy children, the youngest being two years of age. The presence of the tortuous body on the outside determined the choice of the median incision. On opening the abdomen, a small hæmatoma was first removed, afterward the cæcum was dealt with. The course of the case was all that could be desired.

Dr. T. G. Morton teaches lateral incision and nonclosure. As to the first, circumstances should influence the choice; as to the second, he did not believe in it at all. We are too far advanced in surgery for such procedure. He did not believe the view that perityphlitis is necessarily acute. He knew of a case of Dr. T. G. Morton in which the operation for the trouble was repeated at the end of a year, and the appendix removed. Here the trouble was recurrent, gradually growing worse and necessitating the second operation.

DR. M. O'HARA cited, in substantiation of Dr. Price's view, the case of his own child, in which, inside of eleven months, there were two or three attacks. For four or five months he was in perfect health, although the condition (appendicitis) existed. Another attack followed and death from septic peritonitis resulted.

DR. M. PRICE believed that the peritoneum can accommodate large quantities of pus for a time, just as abscess in other parts of the body can be tolerated.

DR. WILLIAM GOODELL thought that perityphlitis, like any other form of inflammation, may exist for years.

DR. HOFFMAN held it to be a mistake to believe that inflammation cannot be present in these without the presence of a well-defined tumor.

DR. J. V. KELLEY thought no one would diagnose perityphlitic abscess without the presence of a tumor. The pericæcal tumors undergo resolution spontaneously and abscesses do not form.

DR. J. B. DEAVER drew a distinction between appendicitis and perityphlitis, and believed that very few cases of inflammation about the appendix undergo resolution.

CORRESPONDENCE.

DIAGNOSIS OF AN EXTRA-UTERINE PREGNANCY IN THE EARLY STAGE.

To the Editor of THE MEDICAL NEWS,

SIR: I submit the following hurriedly written notes of the case of Mrs. H. B., aged thirty-four, a well-nourished English woman, who applied for treatment at the close of the clinic at the Philadelphia Dispensary on the evening of June 22, 1888.

"Pain in the left abdomen after eating. Diarrhœa. Vaginal discharge decidedly red, after any exertion. Insomnia. Neuralgic pains in the left hip, thigh and knee. At irregular intervals pus and blood from bowels, next movement in one half hour, ordinary diarrhœal character. Examination: vulva bluish; chocolate col-

ored mucous discharge. Cervix hard; uterus enlarged—not markedly; fundus tender but fairly hard. Cystic mass to left and partly behind uterus, rising higher as it approaches ilium; very tender; pressure on it gives some pain experienced in defecation; probably hæmatocele (suppurating into bowel?)—possibly extra-uterine pregnancy. Vaginal discharge *always* dark, even when copious; is probably discharged from hæmatocele through the left tube. Has not at any time considered herself pregnant. Sent home to bed."

The following additional items were elicited but on account of the lateness of the hour they were not entered in the note book:

She had last conceived twelve years before, and had been delivered at term. She had had no miscarriages. Since then her menstrual periods have been regular in time and duration, until last April when they appeared for but one day, when, after a severe wetting, they ceased, and the patient attributed their cessation to this fact.

A month later, in May, she experienced uncomfortable sensations, but no flow appeared. There were, after this, pains in the breasts, colic and occasional vomiting. Micturition was painful but not free. As mentioned in the note, she suffered from nearly constant pain in the left, lower abdominal region, radiating to the hip, thigh and knee of the same side. At no time had she had paroxysmal shocks of pain, or exhaustion. The question was several times asked during the interrogation, whether she had at any time, during the last three months, considered herself pregnant, and her answer was, each time, in the negative.

About June 8, after having pains referred to the lower bowel, there was a discharge of bright blood, and pus from the rectum, preceded by very painful defecation which continued thereafter. Diarrhœa followed of the character mentioned in the notes. At irregular intervals the passage would consist of a chocolate-colored fluid mixed with mucus, but no fecal matter. In half an hour the dejection would present characters just the reverse, diarrhœal matter without a tinge of coloring or a trace of mucus. This seemed to point to an adventitious opening into the bowel, communicating, it was inferred, with some part of the mass to the left of the uterus. This inference was suggested by the fact that (according to the patient's statement) the colored discharge was precisely like the muco-sanguinolent flow which came from the uterus. This latter had been flowing for a number of days (the exact time cannot be recalled, as the patient was seen but once, and the notes were not as full as they should have been), was mainly constant, and was increased upon exertion.

An examination revealed a decidedly bluish discoloration, particularly confined to the vaginal mucous membrane and remains of the hymen. This line of demarcation has been frequently noticed in examining women in the early months of pregnancy. This discoloration being met with at the beginning of the inquiry, and resembling so much the like condition in pregnancy, gave a strong color to the suspicion of the latter process being in action.

Issuing from the vulva was the brownish-red mucoid discharge mentioned in the notes. The cervix was hard. It frequently is in the early period of utero-gestation, therefore its condition was not a positive index to the condition of the uterine cavity. The os was more yielding than normal, but not enlarged. The uterus was found to be slightly anteflexed; the fundus slightly enlarged, a degree softer than usual, and tender upon slight pressure, but upon careful bi-manual palpation yielding distinct evidence of being empty. No sense of fluctuation was felt, and the antero-posterior diameter was not increased. Passing to the left, there was felt a cystic mass, about the size of a large orange, smooth and equally compressible in any direction. Pressure upon it caused pain similar to that experienced in defecation. The mass extended to the wall of the pelvis, rising a little higher as it approached it. Toward the median line it extended to and partly behind the uterus, and below it dipped into the pelvic tissues on the left side to a plane nearly on the level with the os, but less deeply behind the uterus. To the touch it was evidently cystic and contained a freely moving fluid. It had not the boggy resistance given by the coagula of a hæmatocele. Gentle ballottement was tried, but without success.

Although the ordinary history of the hæmatocele was absent, there never having been the agonizing, paroxysmal pain, or the shock, pallor and depression so generally accompanying this condition, it was thought possible that some slight rupture, either of the sac itself or of some surrounding structure had taken place, to account for the blood and pus from the bowel appearing intermittently, as well as for the marked old-blood discharge from the vagina.

To review the symptoms, there were:

1. A woman, forty-three years old, who had not been pregnant for twelve years.
2. Cessation of the menses.
3. Various subjective but erratic symptoms of pregnancy, such as vomiting, pain in breasts, painful though not frequent micturition.
4. Characteristic blueness of the vagina.
5. A moderately hard uterus, with decidedly strong convictions of its being empty.
6. A cystic mass to the left of the uterus, of presumably rapid growth, and of a size conforming to the probable period of gestation.
7. Pain in the region of the growth of such character as to convince the patient of the existence of deeply seated trouble, and to cause her ready assent to operative measures for her relief.

The evidence was so strong in favor of the existence of extra-uterine fœtation, that an operation was urged, the woman was directed to go home, to avoid any over-exertion on the way there and go to bed at once.

On June 25, Dr. Joseph Price performed laparatomy, and removed a fœtus and its placenta from the unruptured cyst. Respectfully yours,

HARRIS A. SLOCUM, M. D.

PHILADELPHIA, July 30, 1888.

NEWS ITEMS.

Inoculation for Cholera.—The following is the chief part of the paper of DR. GAMALEÏA, of Odessa, on vaccination against Asiatic cholera presented by M. Pasteur at a recent meeting of the Paris Academy of Sciences:

"The author has only applied to cholera two great principles of the 'experimental method'—that of progressive virulence and that of chemical vaccine matter. It is known that the ordinary forms of cholera vibrion are so little virulent that M. Koch, who discovered them,

thought, after many failures, that cholera could not be communicated to animals by inoculation. The pupils of M. Pasteur at the time of the French expedition to Egypt only once succeeded in communicating cholera to one hen. Now it is an easy matter to give the cholera virus excessive virulence. All that is necessary is to introduce it into a pigeon after passing through a guinea-pig. It then kills the pigeon by producing a dry cholera. What is still more important is that the microbe appears also in the blood of the pigeons. After a few passages this microbe acquires such virulence that the blood of the pigeons in a dose of one or two drops kills all fresh pigeons in from eight to twelve hours. This virus kills also guinea-pigs in still smaller doses. It is important to note that animals of both species become victims to the infection.

"With this deadly virus we have been able to establish the existence of an immunity from cholera. Thus we inoculate a pigeon twice with the ordinary (non-virulent) virus of cholera, first in the pectoral muscles, next in the abdominal cavity. The pigeon had become proof against repeated infection by the most virulent virus in the blood of pigeons. The fact of immunity was thus ascertained.

"Now if this passage virus is developed in a nutritive broth, and is afterward heated to 248° F. for twenty minutes to kill all the microbes it contains, it is possible to show that the heat has left in existence a very active substance in the sterilized broth. This broth, in fact, contains a poisonous substance which produces characteristic phenomena in the animals experimented on. Inoculatated to the extent of four cubic centimetres to one guinea-pig, the sterilized broth produces a progressive fall of temperature, and death in twenty or twenty-four hours. On dissection there is found a swollen state of the stomach and intestines, and, as was to be expected, a complete absence of cholera microbes. Pigeons succumb in this way with the same morbid phenomena, but their death is produced only by a dose of twelve cubic centimetres injected at once. If, on the contrary, there is introduced into them the same quantity of twelve cubic centimetres, but in three, four or five days (by injecting, for instance, eight cubic centimetres the first day and four cubic centimetres two days after), they are not killed. There is, besides, shown to exist in these pigeons a phenomenon of the highest importance. They have become proof against cholera. The most virulent virus —the blood of a pigeon inoculated even to the amount of half a cubic centimetre—is no longer able to kill them.

"The vaccination of guinea-pigs is still more easily carried out by introducing into them the poisonous and vaccinating broth in a quantity of two cubic centimetres. They are vaccinated at two or three sittings. Thus we find here a method of vaccination for the prevention of cholera. The method is founded, as has been shown, on the employment of sterile vaccinating matter, and it possesses all the advantages of chemical vaccination—certainty and security — as the chemical vaccinating matter can be strictly measured and introduced in doses small enough to be quite inoffensive, while the total can give the quantity desired, for complete immunity is obtained without danger and without exception. We consequently hope that this method might be applied to human vaccination to preserve the populations from Asiatic cholera."

M. Pasteur, after reading the note, stated that Dr. Gamaleïa had expressed his readiness to repeat the experiments at Paris in presence of a committee of the Academy of Sciences and to try on himself the inoffensive and sufficient dose for human vaccination. He is ready to undertake a journey into countries where cholera prevails to prove the efficacy of his method. M. Pasteur added that he need scarcely say that he accepted with the greatest satisfaction the offers to conduct the experiments in his laboratory made by Dr. Gamaleïa.

The letter was referred to the committee, which has a prize of 100,000 f. in its hands for a cure for cholera, and it was arranged that the experiment should be postponed till November.

The Yale Thermometric Bureau.—The thermometric bureau established, in 1880, in connection with the observatory of Yale University, is accomplishing a work which physicians ought to appreciate. It has examined a gradually increasing number of thermometers during the years of its existence, but its usefulness is not measured by the number of instruments that pass through its hands. There is from year to year an improvement in the quality of instruments of American manufacture submitted for verification, both actual and relative to foreign manufactures, and the observatory claims a share of the credit for this improvement.

"It may now be fairly said, as it could not have been said before the institution of this bureau, that the best clinical thermometers of American manufacture compare favorably with the best foreign manufactures, both in the smallness of the amount of the required corrections and in their uniformity throughout the scale." Such was the statement of the managers of the observatory in their last year's report, and this year they find occasion to say that their good work is still progressing.—*Boston Med. and Surg. Journal.* Aug. 16, 1888.

Artificial Fecundation.—Since the Abbé Spallanzini in 1767, fecundated bitches, and Hunter, later on (1799), succeeded in rendering a man with hypospadias a happy father, the operation of artificial fecundation has passed through many different experiences, which has brought it more than once before the tribunal of both public opinion and the laws of countries. Eight years ago a married couple in Bordeaux, despairing of having a family, consulted a Doctor Lajatre who, by circulars spread about the country, pretended to render sterile marriages fruitful by a special operation. The doctor performed the operation, but no results followed, and his clients refused to pay him the fee demanded—£60. He thereupon summoned them before a magistrate, but this worthy representative of the law, after listening to the explanations of the doctor, which, by the way, were very minute, all the details of the operation being entered into, not only dismissed the case, but fined the plaintiff for revealing professional secrets. Further, the magistrate gave it as his opinion that artificial fecundation was repugnant to the laws of nature and a positive social danger, and that such procedures should not be put into practice.

This verdict was taken up by the Society of Legal Medicine, as it is called in France, and the president (M. Brouardel) said that the operation might be per-

formed where, after other means had failed, no reasons were found in the man or the woman to account for sterility. Encouraged by this declaration, M. Lajatre came up to Paris, where he advertised in the daily papers his method of procuring families. It will be remembered that the Paris Faculty refused to accept a thesis on this subject presented by a student called Gérard. Last year a sort of company was got up in the capital, sending broadcast pamphlets entitled *Do Vitam*. A large apartment was hired in the Chaussée d'Antin, a doctor was engaged to do the operation, and for a time all went on well. Disappointed husbands and wives came in numbers, but some disagreement took place between the parties interested, and the whole matter has now been placed in the hands of the lawyers, from which it is not likely ever to come out.—*Medical Press*, July 18, 1888.

The Book of Doctors.—In 1884 appeared Part I. of a work entitled "Biographisches Lexicon der Hervorragenden Aerzte aller Zeiten und Völker" (Biographical Lexicon of Eminent Physicians of all Ages and Nations). The special editor was Professor Gurlt, of Berlin, and the publisher Dr. August Hirsch, Professor of Medicine in the same city. The work was to be completed in six volumes in 1888. It is now complete and is spoken of as, after Eulenburg's Real-Encyklopædia, the most distinguished collective work in the domain of medical literature. For obvious reasons the biographies of living medical men are recorded in a sufficiently bare manner, little besides dates and other facts being given. The work contains biographies of 14,415 physicians, of whom a fair proportion are Germans or of a German-speaking nationality. Including Germans, Austrians, German Swiss and Russians, 5045 German medical authors have been found of sufficient eminence to claim a niche in the great gallery. The fact that the biographies of over 9000 foreign medical men are included in the work shows that the editors have not been by any means exclusive. Next in number to the Germans follow the French, British, Italians, North Americans and others. It is quite certain that no work extant can be compared with it, and as a monument of German diligence and German thoroughness it will bear the strictest examination and criticism. Although it is too much to expect that such a comprehensive work will be translated into other languages, it is something to know that such a vast amount of material has been gathered and is accessible to any who choose to make use of it.—*Medical Press*, July 25, 1888.

Death from a Poisoned Cock's Spur.—The death of an entire family of six persons, at the City of Mexico, is reported to have followed quickly after the partaking of a meal of roast fowl, the chicken having been killed at a cock fight. The illness was very rapid in its course, death taking place before medical attendance could be procured. The explanation of this strange casualty that is offered is that the spur, by which the death of the bird was caused, had been poisoned before the cock fight, and that enough of the poison was taken up and retained in the flesh of the slain animal to involve mortally a whole family.

The Treatment of Obesity.—The four principal plans for the treatment of obesity are thus summarized by the *Detroit Lancet:* The eating of nothing containing starch, sugar or fat, called the Banting system; the eating of fat, but not sugar or starch, called the German Banting; the wearing of wool and sleeping in flannel blankets instead of sheets, or the Munich system; not eating and drinking at the same time, or rather the allowing of a couple of hours to intervene between eating and drinking, or the Schweninger system.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 28 TO SEPTEMBER 3, 1888.

ALDEN, CHARLES H., *Major and Surgeon.*—Detailed as a member of the Board of Medical Officers convened at the U. S. Military Academy, West Point, N. Y., vice Major and Surgeon Charles R. Greenleaf, relieved.—Par. 2, *S. O. 199, A. G. O.*, August 28, 1888.

CALDWELL, DANIEL G., *Major and Surgeon.*—To report to the Recorder of the Retiring Board in session at Fort Leavenworth, Kansas, as a witness in the case of Captain Thomas Sharp, Seventeenth Infantry.—Par. 2, *S. O. 74, Department of the Platte*, August 18, 1888.

CALDWELL, DANIEL G., *Major and Surgeon.*—Having completed his duty as witness before the Retiring Board, Fort Leavenworth, Kansas, to return to his station, Fort D. A. Russell, Wyoming.—Par. 4, *S. O. 106, Department of the Missouri*, August 24, 1888.

LORING, LEONARD Y., *Assistant Surgeon.*—Granted leave of absence for one month.—Par. 1, *S. O. 97, Department of Arizona*, August 23, 1888.

TAYLOR, MARCUS E, *Captain and Assistant Surgeon.*—Granted leave of absence for four months, to take effect about October 15, 1888.—Par. 8, *S. O. 196, A. G. O.*, August 24, 1888.

BIRMINGHAM, HENRY P., *Captain and Assistant Surgeon.*—Relieved from duty at Fort Myer, Virginia, and ordered to Fort Klamath, Oregon, for duty.—Par. 18, *S. O. 196, A. G. O.*, August 24, 1888.

BALL, R. R., *Assistant Surgeon* (U. S. Army, Fort Riley, Kansas).—Ordered to Fort Lewis, Colorado, for temporary duty.—Par. 5, *S. O. 108, Department af the Missouri*, August 27, 1888.

SWIFT, EUGENE L., *Captain and Assistant Surgeon.*—Upon being relieved from temporary duty at Fort Klamath, Oregon, to return to his proper station, Fort Spokane, Washington Territory.—Par. 18, *S. O. 196, A. G. O.*, August 24, 1888.

RAFFERTY, OGDEN, *Assistant Surgeon.*—To proceed from Fort Clark to the camp at the Department Rifle Range, near San Antonio, Texas, and report for temporary duty.—Par. 3, *S. O. 85, Department of Texas*, August 15, 1888.

RAFFERTY, OGDEN, *Assistant Surgeon*—Upon conclusion of Department Rifle Competition, will report to the Inspector of Rifle Practice, Division of the Missouri, for assignment to duty in connection with the Division Rifle Competition, as Camp Surgeon.—Par. 4, *S. O. 86, Department of Texas*, August 17, 1888.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF THE MEDICAL CORPS OF THE U. S. NAVY, FOR THE WEEK ENDING SEPTEMBER 1, 1888.

CRANDALL, R. P., *Assistant Surgeon*—Detached from the "Saratoga," and wait orders.

DUBOSE, W. R., *Passed Assistant Surgeon.*—Detached from the "Jamestown," and ordered to the "Constellation."

ARNOLD, W F., Nashville, Tenn., commissioned Assistant Surgeon in the Navy, August 18th.

LUNG, GEORGE A., Canandaigua, N. Y., commissioned Assistant Surgeon in the Navy, August 18th.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*